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The Wilkinson Microwave Anisotropy Probe (WMAP[1]) Source Catalog

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ABSTRACT

We present the list of point sources found in the *WMAP* 5-year maps. The technique used in the first-year and three-year analysis now finds 390 point

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sources, and the five-year source catalog is complete for regions of the sky away from the galactic plane to a 2 Jy limit, with SNR > 4.7 in all bands in the least covered parts of the sky. The noise at high frequencies is still mainly radiometer noise, but at low frequencies the CMB anisotropy is the largest uncertainty. A separate search of CMB-free V-W maps finds 99 sources of which all but one can be identified with known radio sources. The sources seen by *WMAP* are not strongly polarized. Many of the *WMAP* sources show significant variability from year to year, with more than a 2:1 range between the minimum and maximum fluxes.

Subject headings: radio sources, variable sources, cosmic microwave background, cosmology: observations, space vehicles, space vehicles: instruments, instrumentation: detectors, telescopes

1. INTRODUCTION

The Wilkinson Microwave Anisotropy Probe (*WMAP*) (Bennett et al. 2003a) is a Medium-class Explorer (MIDEX) mission designed to study cosmology by producing full-sky maps of the cosmic microwave background (CMB) anisotropy. *WMAP* has measured the angular power spectrum of the CMB anisotropy over 10^3 different values of the spherical harmonic index ℓ. All of these data can be adequately fit by a simple 6 parameter ΛCDM model, and this model can also fit other datasets (Spergel et al. 2007). A determination of the interference from foreground sources is an essential part of the analysis of CMB data (Nolta et al. 2008). The most important foreground at small angular scales is due to extragalactic flat-spectrum radio sources. Sources are found by searching the maps for bright spots that approximate the beam profile, but due to the limited angular resolution of *WMAP* it is possible to confuse positive CMB excursions with point sources. Nonetheless, *WMAP* provides the only all-sky survey of the millimeter-wave sky so its point source catalogs are valuable for the study of flat-spectrum radio sources. In addition, the *WMAP* point source catalog is used to mask out contaminated spots in the high galactic latitude sky used for cosmological analyses. 208 point sources were found in a search of the first year of *WMAP* observations (Bennett et al. 2003b). A search for point sources in the three-year *WMAP* data found 323 sources (Hinshaw et al. 2007). In this paper we report on 390 point sources found in the *WMAP* five-year maps.

WMAP was designed to give approximately equal sensitivity in each band in terms of brightness temperature within a constant pixel size. Since the conversion factor from Janskies to Kelvins is determined by area of the telescope, the sensitivity in Janskies per pixel is fairly

constant from band to band. The Γ_{ff} factors tabulated by Hill et al. (2008) give the peak temperature expected for a 1 Jansky source with a free-free ($\nu^{-0.14}$) spectrum as 262.7, 211.9, 219.6, 210.1 & 179.2 μK for the K through W bands of *WMAP*. But the signal to noise ratio on point sources also depends on the number of pixels that can be averaged to estimate the flux, which is proportional to the wavelength squared, so the overall radiometer noise level is approximately proportional to the frequency. *WMAP* actually illuminates different fractions of the primary mirror in different bands, and does not have exactly the same sensitivity in Kelvins per pixel in each band, so the actual radiometer noise contributions to point source flux estimates are 0.067, 0.11, 0.13, 0.23 & 0.40 Jy divided by the square root of the number of years of observations for sources on the ecliptic where the coverage is smallest. The anisotropy of the CMB itself is also a source of noise that does not integrate down with more years of observation. Using the point-source flux estimating filters on a noise-free CMB map generated using the parameters in Spergel et al. (2007) gives 1σ flux noises of 0.27, 0.41, 0.36, 0.27 & 0.14 Jy in the K, Ka, Q, V & W bands (Chen & Wright 2007).

2. POINT SOURCES IN INDIVIDUAL BAND MAPS

Extragalactic point sources contaminate the *WMAP* anisotropy data and a few hundred of them are strong enough that they should be masked and discarded prior to undertaking any CMB analysis. In this section we describe a new direct search for sources in the five-year *WMAP* band maps. Based on this search, we update the source mask that was used in the five-year analysis.

In the three-year analysis, we produced a catalog of bright point sources in the *WMAP* sky maps, independent of their presence in external surveys. This process has been repeated with the five-year maps as follows. We filter the weighted maps, $N_{\rm obs}^{1/2}T$ ($N_{\rm obs}$ is the number of observations per pixel) in harmonic space by $b_l/(b_l^2 C_l^{\rm cmb} + C_l^{\rm noise})$, (Tegmark & de Oliveira-Costa 1998; Refregier et al. 2000), where b_l is the transfer function of the *WMAP* beam response (Page et al. 2003; Jarosik et al. 2007; Hill et al. 2008), $C_l^{\rm cmb}$ is the CMB angular power spectrum, and $C_l^{\rm noise}$ is the noise power. Note that the CMB angular power spectrum used in this filtering has been updated to match the parameters from the *WMAP* three-year analysis, and that the importance of the noise power spectrum goes down as one over the number of years of data. Peaks that are $>5\sigma$ in the filtered map in any band are fit in the unfiltered maps for all bands to a Gaussian profile plus a planar baseline. The Gaussian amplitude is converted to a source flux density using the conversion factors given in Hill et al. (2008). When a source is identified with $>5\sigma$ confidence in any band, the flux densities for other bands are given if they are $>2\sigma$ and the fit source width is within a factor

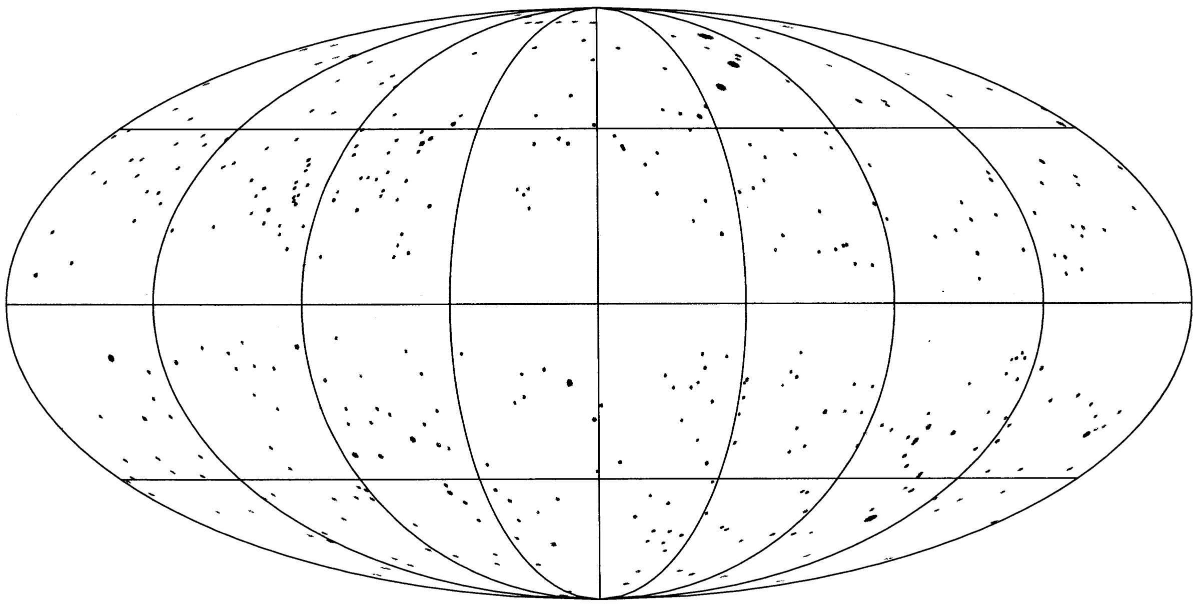

Fig. 1.— Map showing the location of the 390 point sources found by searching individual band maps. The shaded region shows the mask used to exclude extended foreground emission. The size of the plotted points indicates the flux of the source: the area of the dot scales like the maximum flux over the 5 *WMAP* bands plus 4 Jy. Galactic coordinates are plotted.

of 2 of the true beam width. We cross-correlate detected sources with the GB6 (Gregory et al. 1996), PMN (Griffith et al. 1994), and Kühr et al. (1981) catalogs to identify 5 GHz counterparts. If a 5 GHz source is within 11′ of the *WMAP* source position (the *WMAP* source position uncertainty is 4′) we identify the *WMAP* source with the 5 GHz source and list the identification in Table 1. When more than one source lies within the cutoff radius the brightest one is assumed to be the *WMAP* counterpart.

The catalog of 390 sources obtained from the five-year maps is listed in Table 1. In the first-year catalog, source ID numbers were assigned on the basis of position (sorted by galactic longitude). Now, rather than assigning new numbers to the newly detected sources, we follow Hinshaw et al. (2007) and recommend that WMAP sources be referred to by their coordinates, e.g., WMAP J0006-0622. For reference, we give the first-year source ID in column 3 of Table 1. The 5 GHz IDs are given in the last column.

The three-year catalog contained 323 sources. Given the increased sensitivity in the five-year maps, the number of new sources detected is consistent with expectations based on differential source count models. At the same time, three sources from the first-year catalog are not present in the five-year list (numbers 15, 61 & 156). Source numbers 31, 96 and 168

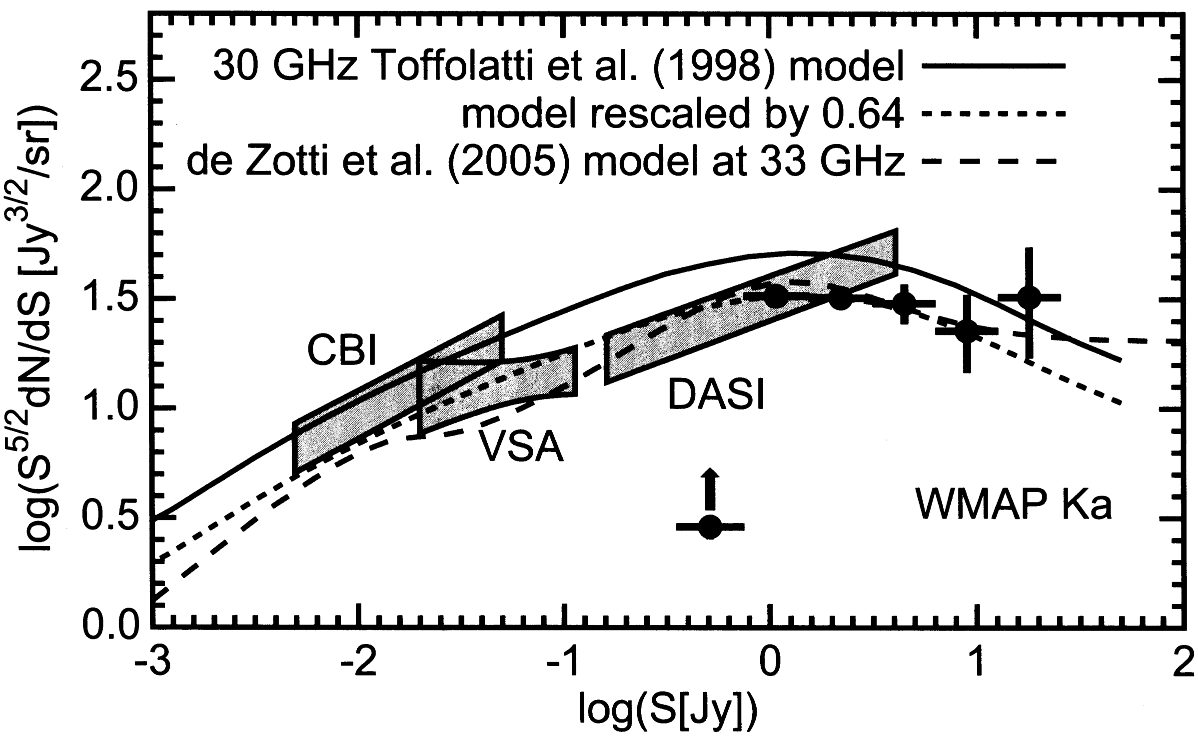

Fig. 2.— Differential source counts from the WMAP five-year catalog compared the Toffolatti et al. (1998) model, and to CBI counts at 31 GHz (Mason et al. 2003), 33 GHz VSA counts (Cleary et al. 2005), and DASI 31 GHz counts (Kovac et al. 2002). Models from Toffolatti et al. (1998) and de Zotti et al. (2005) are shown as well. Errorbars for *WMAP* are statistical only. The *WMAP* catalog in the 0.35 to 0.75 Jy bin is quite incomplete, leading to the low data point with the upward arrow on the plot.

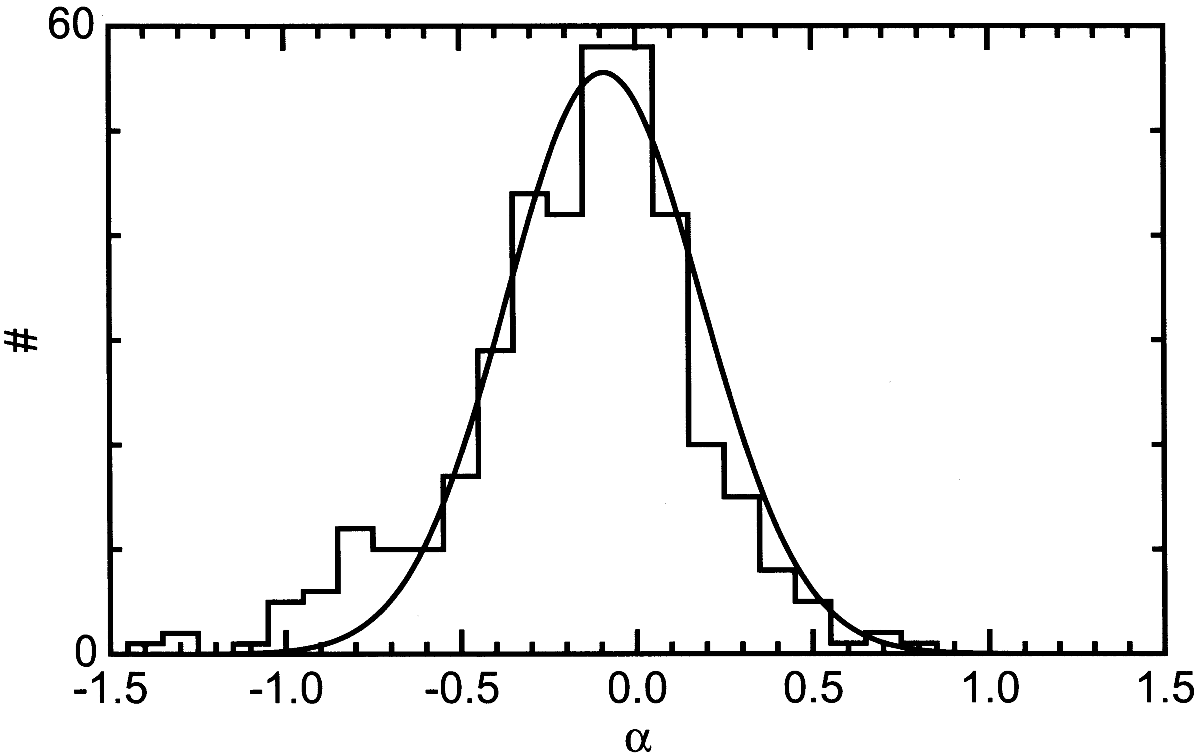

Fig. 3.— A histogram of the spectral indices of *WMAP* sources in the five-year maps. The smooth curve is a Gaussian with a mean of -0.09 and a standard deviation of 0.28, normalized to the total number of sources.

which were missing in the three-year list have been resurrected. Simulations of the first-year catalog suggested that it contained 5 ± 4 false detections, so the number of dropped first-year sources is consistent with expectations. Nine sources from the three-year catalog are missing from the five-year catalog: WMAP J0513-2015, 0734+5021, 1227+1124, 1231+1351, 1302+4856, 1309+1155, 1440+4958, 1556-7912 & 1648+4114. The sources J1227+1124 and J1231+1351 were spurious detections caused by sidelobes in the filtered maps around the strong source J1230+1223. This problem is handled as follows in the 5-year analysis. After identification of each source with signal-to-noise ratio greater than 30 in a filtered map, the map is cleaned by subtracting the point spread function scaled to the source peak. Six of the 323 sources in the three-year catalog could not be identified with 5 GHz counterparts; now 17 out of the 390 sources in the five-year catalog do not have 5 GHz identifications. The strong source J1924-2914 is included in the five-year catalog but not in the previous catalogs because of a small change in the mask used to exclude Galactic plane and Magellanic cloud regions. Isolated mask regions with fewer than 500 contiguous HEALPix res 9 pixels are no longer included in the mask (compare Figure 1 with the Kp0 mask in Figure 2 of Bennett et al. (2003b)). The point source catalog mask shown in Figure 1 will be available on the LAMBDA web site, http://lambda.gsfc.nasa.gov.

Trushkin (2003) has compiled multifrequency radio spectra and high resolution radio maps of the sources in the first-year *WMAP* catalog. Reliable identifications are claimed for 205 of the 208 first-year sources. Of the 203 sources with optical identifications, Trushkin (2003) finds 141 quasars, 42 galaxies, or active galactic nuclei, 19 BL Lac-type objects and one planetary nebula, IC418. Forty percent of the sources are identified as having flat and inverted radio spectra, 13% might have GHz-peaked spectra, 8% are classical power-law sources, and 7% have a classical low frequency power-law combined with a flat or inverted spectrum component (like 3C84). Trushkin (2003) suggests that *WMAP* source number 116 is likely to be spurious and, for source 61 no radio component was found. Indeed, source 61 is not present in either the three-year catalog or the five-year catalog. Giommi et al. (2007) observed the 23 objects in the first WMAP sample that were not reported as X-ray sources and detected all of these objects in the 0.3 -10 keV band. They report a strong correlation between X-ray and microwave properties for these blazars.

The distribution of five-year sources on the sky is shown in Figure 1. A Kp0+LMC+SMC mask was used when finding point sources. This mask excluded 22% of the sky. The source counts in the 33 GHz band are shown in Figure 2. The scaling of the Toffolatti et al. (1998) model has decreased from 0.66 to 0.64. The slope of the WMAP source counts is quite close to the Euclidean $dN/dS \propto S^{-2.5}$ slope, while both the models (Toffolatti et al. 1998; de Zotti et al. 2005) and the more sensitive data (Mason et al. 2003; Cleary et al. 2005) show sub-Euclidean faint source counts.

The spectral indices of the sources are clustered near a flat spectrum, $\alpha = 0$ in $F_\nu \propto \nu^\alpha$. A histogram of the measured α's is shown in Figure 3. The smooth curve is a Gaussian with a mean of $\langle\alpha\rangle = -0.09$ and $\sigma = 0.28$. This σ includes measurement errors and is thus an upper limit on the true dispersion of spectral indices. Assuming for simplicity that the underlying distributions of spectral indices is a Gaussian with standard deviation $\sigma_\circ$, then the intrinsic dispersion that gives χ^2 per degree of freedom equal to unity is $\sigma_\circ = 0.176$ and the weighted mean $\langle\alpha\rangle = -0.09$.

3. POINT SOURCES IN CMB-FREE ILC MAPS

The number of sources detected by *WMAP* as a function of integration times varied as $N \propto t_{int}^{0.4}$ between the one-year and the three-year catalogs, but slowed slightly to $\propto t_{int}^{0.37}$ between the three-year and the five-year maps. This could be due to the "noise" from the CMB, which does not integrate down with increased observing time. An approach to circumvent this noise term has been developed by Chen & Wright (2007). It involves forming internal linear combination (ILC) maps from the *WMAP* bands, but unlike the normal ILC maps which preserve the CMB and suppress foregrounds, these ILC maps are designed to suppress the CMB. Applying this technique to the *WMAP* V and W bands alone, Chen & Wright (2007) found 31 sources in the one-year maps and 63 sources in the three-year maps. This gives $N \propto t_{int}^{0.65}$ indicating that the ILC technique improves rapidly with increased observing time.

We have applied this ILC V-W technique to the five-year maps and there are 99 sources detected in the region with $|b| > 10°$. These are listed in Table 2. Among them, 64 are in the WMAP 5 year source catalog, 17 can be identified with sources in NED based on continuity of spectral energy distributions, 17 are in complex galactic emission regions, leaving only one source at $09^h21^m28^s$, $+7°24'22''$ without any identification. The V-W technique can find sources sitting in negative peaks of the CMB where the standard flux finding technique returns an insignificant or even negative flux. V band fluxes for these sources have been estimated by multiplying the value of the V-W map in mK, tabulated in Table 2, by the median conversion factor derived from the sources identified in Table 1. This factor is 6.28 Jy per mK. Of the 99 sources in Table 2, 13 are in the source list by Nie & Zhang (2007) using the cross-correlation detection method, 9 are in the non-blind catalog by López-Caniego et al. (2007), 27 are in the AT20G Bright Source Sample (Massardi et al. 2007), and 73 are in the CRATES catalog Healey et al. (2007).

The number of sources found by the ILC V-W technique continues to increase fairly quickly with increased integration time, going like $t^{0.72}$ from 1 year to 5 years.

4. FLUX VARIABILITY OVER FIVE YEARS

An analysis of the variability of the *WMAP* point sources has been performed by forming fluxes from the individual year maps. It is possible to measure the variability of a source without any noise contribution from the CMB by subtracting the five-year average map from each individual year. The fit of a Gaussian beam plus planar baseline to this difference map then gives a ΔF_i for the i^{th} year, and the flux for the i^{th} year is then given by $F_i = \langle F \rangle + \Delta F_i$ where the five-year average flux is $\langle F \rangle$.

There are 25 data points for a source detected in all five bands, and fitting an arbitrary spectrum that is constant in time leaves 20 degrees of freedom. 137 of the 390 sources in Table 1 give $\chi^2 > 37.6$ relative to this fit and thus are variable at greater than 99% confidence. These are generally the brighter sources which have smaller relative flux errors, allowing a better detection of variability. The 5 band lightcurves for the 15 sources with the highest χ^2 are plotted in Figure 4. The median rms variability of the Q band fluxes among the 25 brightest Q band sources is 23%, after allowing for the flux variations due to radiometer noise.

It is clear from Figure 4 that most of the variability involves the entire spectrum of a source moving up and down together, at least on the one year time resolution of this analysis. The full table of year-by-year and band-by-band fluxes for *WMAP* sources will be available on LAMBDA.

5. POLARIZATION

In general the *WMAP* detected point sources are not strongly polarized. Of the 390 sources in Table 3, only 5 have polarizations greater than 4σ in two or more bands. These sources are listed in Table 3. In order to assess the average polarization of the sources, the square of the polarized flux, evaluated as $Q^2 + U^2 - \sigma_Q^2 - \sigma_U^2$, was fit to the form $p^2 I^2$. This gave mean polarization percentages of $p = 2.9$, 2.2, 1.9, < 3.4 & < 8.5% in K, Ka, Q, V & W. For the V & W bands 2σ upper limits on the mean polarization percentage are given.

6. EFFECT ON THE POWER SPECTRUM

Uncorrelated point sources contribute a power spectrum $C_\ell =$ const to the power spectrum. Since one has to divide by the beam function b_ℓ^2 and multiply by $\ell(\ell+1)/2\pi$ to put this on the usual angular power spectrum plot, point sources give a large contribution to the

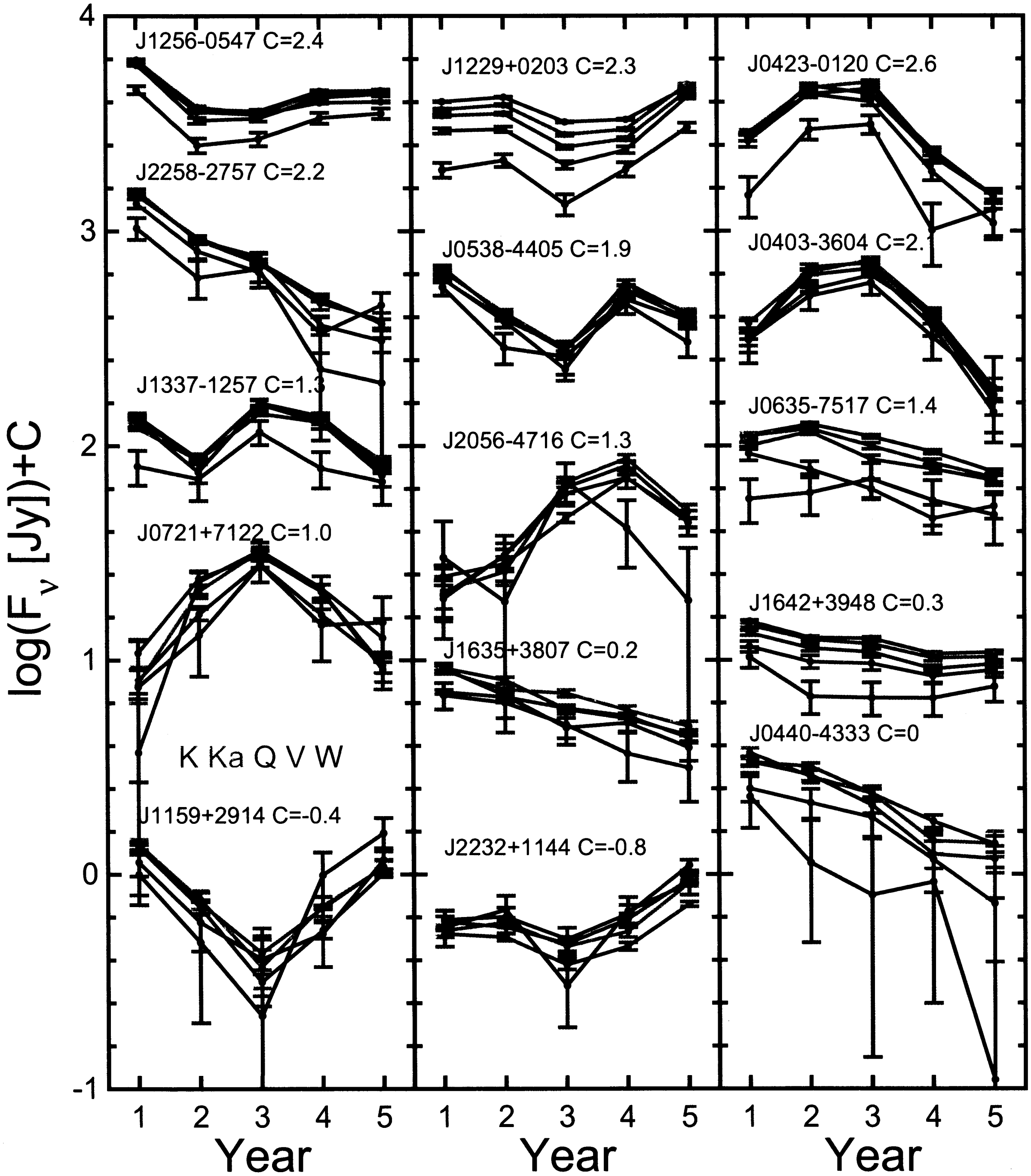

Fig. 4.— The 15 sources with the highest χ^2 for a fit of a constant flux with an arbitrary spectrum. The 23 GHz data are plotted in red, the 33 GHz data are plotted in orange, the 41 GHz data are plotted in green, the 61 GHZ data are plotted in blue, and the 94 GHz data are plotted in purple.

power spectrum at high ℓ. This can be estimated and removed from the cosmological signal in several different ways. The first technique puts an adjustable constant term in the model C_ℓ, while a second technique fits the difference between frequency bands to a constant C_ℓ. The CMB gives the same angular power spectrum in different bands, but the contribution of radio point sources is strongly frequency dependent:

$$C_\ell^{\mathrm{i,src}} = A\, g_i g_{i'} \left(\frac{\nu_i}{\nu_{\mathrm{Q}}}\right)^\beta \left(\frac{\nu_{i'}}{\nu_{\mathrm{Q}}}\right)^\beta w_\ell^{\mathrm{i}}, \tag{1}$$

where $C_\ell^{\mathrm{i,src}}$ is the point source contribution to the observed cross-power spectrum between bands i and i', the factors g_i convert the result to thermodynamic temperature, $\nu_{\mathrm{Q}} \equiv 40.7$ GHz, and we assume a power law frequency spectrum with index $\beta = \langle\alpha\rangle - 2$. The window function $w_\ell^{\mathrm{i}} = b_\ell^i b_\ell^{i'} p_\ell^2$ as in Hinshaw et al. (2007). A third technique computes the effect of unresolved point sources using a model for the counts of sources too faint to be in the catalog. This gives

$$C_\ell = \left(\frac{\partial B_\nu}{\partial T}\right)^{-2} \int_0^{S_{lim}} S^2 \left(\frac{dN}{dS}\right) dS \tag{2}$$

for uncorrelated sources, where $\partial B_\nu / \partial T$ converts temperature into intensity, or equivalently the integral of $Td\Omega$ in the definition of $a_{\ell m}$ into flux. Thus the point source contribution to an observed cross-power spectrum can be written

$$C_\ell^{\mathrm{i,src}} = \left(\frac{c^4}{4k^2(\nu_i \nu_{i'})^2}\right) g_i g_{i'} w_\ell^{\mathrm{i}} \int S_i S_{i'} dN \tag{3}$$

where the integral is over all unmasked sources.

If the wrong spectral index is used to convert the difference between power spectra at different frequencies into a point source contribution, then there will be a systematic error in the cosmological parameters, primarily in the spectral index n_s. This effect can be estimated using a simple model for the correction to the 61 GHz C_ℓ derived from the difference between the 41 and 94 GHz spectra:

$$\Delta C_\ell^V = \nu_V^\beta \frac{C_\ell^Q - C_\ell^W}{\nu_Q^\beta - \nu_W^\beta} \approx C_\ell^V(\beta = -2)(1 + 0.59(\beta + 2) + \ldots) \tag{4}$$

Thus if β were really -2.09 instead of -2 then the correction to the 61 GHz power spectrum should be 5% smaller than that which would be estimated assuming $\beta = -2$. Huffenberger et al. (2006) found that decreasing the point source correction by 44% changed the spectral index n_s by 0.018 so changing β from -2.0 to -2.09 would change n_s by 0.0022, or 0.15σ.

7. SUMMARY AND CONCLUSIONS

There are no other radio surveys that provide the wide coverage of *WMAP* at frequencies from 23-100 GHz. In addition, *WMAP* provides year by year fluxes to track the variability of bright millimeter-wave sources. We present catalogs of point sources found in the *WMAP* 5 year dataset. Two different approaches have been used: the standard approach of looking for peaks in single band maps that have been convolved with a matched filter, and a new approach that constructs CMB-free internal linear combination maps. Using the 61 and 94 GHz data gives a catalog with somewhat lower sensitivity than the standard approach, but with better positional accuracy. The estimated contamination of the CMB angular power spectrum by unmasked point sources has been estimated, with results that are consistent with previous analyses and with the differences between angular power spectra in different bands (Nolta et al. 2008). Remaining uncertainties in the point source correction contribute to the uncertainty of the cosmological parameters, with the biggest effect occurring for n_s.

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Table 1. WMAP Source Catalog

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
00 03 20	−47 52		···	0.7 ± 0.06	0.7 ± 0.09	0.4 ± 0.1	···	−0.7 ± 1	···	
00 06 06	−06 23	060	2.3 ± 0.06	2.3 ± 0.1	2.3 ± 0.1	2.0 ± 0.2	···	−0.1 ± 0.2	PMN J0006-0623	
00 10 37	11 01		1.1 ± 0.07	1.2 ± 0.1	1.2 ± 0.1	1.0 ± 0.2	1.6 ± 0.5	0.1 ± 0.3	GB6 J0010+1058	
00 12 53	−39 52	202	1.3 ± 0.04	1.3 ± 0.08	1.0 ± 0.09	1.3 ± 0.2	0.8 ± 0.2	−0.2 ± 0.2	PMN J0013-3954	
00 19 18	26 03		1.0 ± 0.06	0.7 ± 0.1	0.8 ± 0.1	0.5 ± 0.2	1.4 ± 0.3	0.0 ± 0.3	GB6 J0019+2602	
00 19 40	20 20		1.0 ± 0.06	1.1 ± 0.08	0.9 ± 0.09	1.3 ± 0.2	···	0.1 ± 0.3	GB6 J0019+2021	
00 25 22	−26 02		0.9 ± 0.05	0.7 ± 0.09	0.5 ± 0.08	···	···	−0.8 ± 0.6	PMN J0025-2602	a
00 26 07	−35 10		1.1 ± 0.07	1.1 ± 0.09	1.4 ± 0.1	1.0 ± 0.2	···	0.2 ± 0.3	PMN J0026-3512	
00 29 34	05 54		1.1 ± 0.06	1.3 ± 0.09	1.0 ± 0.09	0.7 ± 0.2	···	−0.1 ± 0.3	GB6 J0029+0554B	a
00 38 14	−24 59		0.7 ± 0.06	0.8 ± 0.1	0.6 ± 0.1	1.1 ± 0.3	···	0.3 ± 0.5	PMN J0038-2459	
00 43 12	52 08		1.0 ± 0.04	0.6 ± 0.07	0.5 ± 0.08	0.5 ± 0.1	···	−1.0 ± 0.4	GB6 J0043+5203	
00 47 19	−25 14	062	1.1 ± 0.06	0.9 ± 0.1	1.1 ± 0.1	1.0 ± 0.2	0.9 ± 0.2	−0.1 ± 0.3	PMN J0047-2517	
00 49 50	−57 39	179	1.4 ± 0.05	1.4 ± 0.07	1.2 ± 0.07	1.2 ± 0.2	0.8 ± 0.3	−0.2 ± 0.2	PMN J0050-5738	
00 50 48	−42 24		1.3 ± 0.03	1.3 ± 0.06	1.2 ± 0.06	0.7 ± 0.1	0.8 ± 0.2	−0.2 ± 0.2	PMN J0051-4226	
00 50 49	−06 49		1.1 ± 0.06	1.1 ± 0.09	0.7 ± 0.1	1.3 ± 0.2	1.2 ± 0.5	−0.0 ± 0.3	PMN J0051-0650	
00 51 02	−09 27	077	1.0 ± 0.06	1.0 ± 0.08	0.8 ± 0.09	1.1 ± 0.2	···	−0.1 ± 0.3	PMN J0050-0928	
01 00 08	−56 54		0.5 ± 0.04	0.7 ± 0.08	0.8 ± 0.08	0.5 ± 0.1	···	0.3 ± 0.4	···	
01 06 43	−40 35	171	2.2 ± 0.04	2.4 ± 0.07	2.2 ± 0.09	2.0 ± 0.2	1.5 ± 0.3	−0.0 ± 0.1	PMN J0106-4034	
01 08 30	13 19	079	1.4 ± 0.06	1.1 ± 0.1	0.8 ± 0.2	···	···	−0.8 ± 0.6	GB6 J0108+1319	
01 08 43	01 35	081	1.9 ± 0.06	1.9 ± 0.08	1.7 ± 0.1	1.5 ± 0.2	···	−0.1 ± 0.2	GB6 J0108+0135	a
01 15 21	−01 29		0.9 ± 0.05	1.2 ± 0.08	1.0 ± 0.09	1.1 ± 0.1	···	0.2 ± 0.3	PMN J0115-0127	
01 16 18	−11 37		1.3 ± 0.07	1.0 ± 0.1	1.0 ± 0.1	1.5 ± 0.3	···	−0.1 ± 0.4	PMN J0116-1136	
01 21 46	11 50		1.2 ± 0.05	1.1 ± 0.1	1.2 ± 0.1	0.6 ± 0.2	···	−0.3 ± 0.4	GB6 J0121+1149	
01 25 21	−00 10	086	1.1 ± 0.06	1.2 ± 0.09	1.1 ± 0.1	0.8 ± 0.2	···	−0.0 ± 0.3	PMN J0125-0005	a
01 32 36	−16 53	097	1.8 ± 0.05	1.8 ± 0.09	1.8 ± 0.1	1.6 ± 0.2	1.3 ± 0.3	−0.1 ± 0.2	PMN J0132-1654	
01 33 08	−52 00	168	0.8 ± 0.05	1.1 ± 0.08	0.7 ± 0.07	···	···	0.0 ± 0.4	PMN J0133-5159	
01 33 26	−36 27		0.6 ± 0.06	0.6 ± 0.1	···	···	···	−0.3 ± 1	PMN J0134-3629	a
01 37 01	47 53	080	3.8 ± 0.05	3.8 ± 0.09	3.6 ± 0.1	3.2 ± 0.2	1.8 ± 0.2	−0.2 ± 0.09	GB6 J0136+4751	
01 37 37	−24 28		1.3 ± 0.06	1.3 ± 0.09	1.8 ± 0.1	1.4 ± 0.2	···	0.4 ± 0.3	PMN J0137-2430	
01 49 10	05 53		1.0 ± 0.06	0.7 ± 0.09	0.8 ± 0.1	···	···	−0.4 ± 0.5	GB6 J0149+0555	
01 52 28	22 08		1.2 ± 0.09	1.3 ± 0.2	1.3 ± 0.1	1.4 ± 0.2	1.7 ± 0.5	0.2 ± 0.3	GB6 J0152+2206	
02 04 49	15 13	092	1.3 ± 0.06	1.3 ± 0.1	1.1 ± 0.1	1.6 ± 0.3	···	0.0 ± 0.3	GB6 J0204+1514	
02 05 01	32 13	085	1.6 ± 0.07	1.5 ± 0.1	1.2 ± 0.1	0.7 ± 0.2	···	−0.5 ± 0.3	GB6 J0205+3212	
02 05 03	−17 04		0.7 ± 0.1	···	0.9 ± 0.2	0.8 ± 0.1	0.6 ± 0.3	0.0 ± 0.5	PMN J0204-1701	
02 10 51	−51 00	158	2.7 ± 0.05	2.7 ± 0.08	2.8 ± 0.09	2.7 ± 0.2	2.1 ± 0.4	0.0 ± 0.1	PMN J0210-5101	
02 18 27	01 38	096	1.3 ± 0.05	1.2 ± 0.08	0.8 ± 0.1	···	0.7 ± 0.3	−0.5 ± 0.3	···	
02 20 57	35 58		1.2 ± 0.06	1.2 ± 0.09	0.9 ± 0.1	1.1 ± 0.2	1.3 ± 0.3	−0.1 ± 0.2	GB6 J0221+3556	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
02 22 45	−34 40	137	1.0 ± 0.03	1.0 ± 0.05	···	0.7 ± 0.1	···	-0.2 ± 0.3	PMN J0222-3441	
02 23 10	43 03	084	1.8 ± 0.06	1.4 ± 0.1	1.4 ± 0.1	1.3 ± 0.3	1.2 ± 0.2	-0.4 ± 0.2	GB6 J0223+4259	a
02 31 37	13 20		1.3 ± 0.07	1.2 ± 0.08	1.2 ± 0.1	0.9 ± 0.2	···	-0.2 ± 0.3	GB6 J0231+1323	
02 31 39	−47 42		0.7 ± 0.05	0.9 ± 0.09	0.9 ± 0.07	1.2 ± 0.1	0.7 ± 0.2	0.3 ± 0.2	PMN J0231-4746	
02 37 58	28 48	093	3.8 ± 0.06	3.4 ± 0.1	3.5 ± 0.1	3.2 ± 0.3	2.1 ± 0.4	-0.2 ± 0.1	GB6 J0237+2848	
02 38 48	16 37		1.5 ± 0.08	1.6 ± 0.1	1.6 ± 0.1	1.6 ± 0.3	···	0.1 ± 0.3	GB6 J0238+1637	
02 41 18	−08 21		1.0 ± 0.06	0.7 ± 0.09	0.7 ± 0.1	···	···	-0.8 ± 0.5	PMN J0241-0815	
02 45 18	−44 56		0.5 ± 0.05	0.7 ± 0.1	0.6 ± 0.09	0.7 ± 0.2	···	0.5 ± 0.5	PMN J0245-4459	
02 53 33	−54 42	155	2.4 ± 0.04	2.7 ± 0.07	2.5 ± 0.08	2.2 ± 0.1	1.8 ± 0.3	0.0 ± 0.1	PMN J0253-5441	
02 59 31	−00 15		1.1 ± 0.06	1.4 ± 0.08	1.2 ± 0.08	0.8 ± 0.1	···	0.0 ± 0.3	PMN J0259-0020	
03 03 33	−62 12	162	1.4 ± 0.06	1.3 ± 0.1	1.4 ± 0.08	1.3 ± 0.1	1.0 ± 0.2	-0.1 ± 0.2	PMN J0303-6211	
03 08 26	04 05	102	1.3 ± 0.07	1.3 ± 0.1	1.2 ± 0.1	0.9 ± 0.3	···	-0.1 ± 0.4	GB6 J0308+0406	
03 09 16	10 28		1.1 ± 0.07	1.3 ± 0.1	1.3 ± 0.1	1.5 ± 0.2	1.5 ± 0.5	0.3 ± 0.3	GB6 J0309+1029	
03 09 50	−61 02	160	1.1 ± 0.05	1.2 ± 0.08	0.9 ± 0.07	0.9 ± 0.2	0.7 ± 0.3	-0.2 ± 0.3	PMN J0309-6058	
03 12 21	−76 45	174	1.0 ± 0.05	1.2 ± 0.08	1.1 ± 0.07	0.9 ± 0.1	0.8 ± 0.3	-0.0 ± 0.2	PMN J0311-7651	
03 12 50	01 31		0.9 ± 0.06	0.8 ± 0.2	0.9 ± 0.1	0.8 ± 0.2	···	0.0 ± 0.4	GB6 J0312+0132	
03 19 45	41 31	094	11.3 ± 0.06	8.9 ± 0.09	7.5 ± 0.1	5.6 ± 0.2	3.9 ± 0.4	-0.7 ± 0.04	GB6 J0319+4130	
03 22 25	−37 11	138	18.5 ± 3.1	12.6 ± 2.0	10.6 ± 1.9	8.4 ± 2.5	···	-0.8 ± 0.2	1Jy 0320-37	b
03 25 14	22 25		0.8 ± 0.08	0.9 ± 0.1	1.1 ± 0.2	0.5 ± 0.2	···	0.1 ± 0.5	GB6 J0325+2223	
03 29 45	−23 54	123	1.2 ± 0.05	1.3 ± 0.07	1.2 ± 0.1	1.0 ± 0.1	0.9 ± 0.2	-0.0 ± 0.2	PMN J0329-2357	
03 34 20	−40 07	146	1.4 ± 0.05	1.5 ± 0.07	1.4 ± 0.07	1.4 ± 0.1	1.5 ± 0.4	0.0 ± 0.2	PMN J0334-4008	
03 36 49	−12 57		1.0 ± 0.05	0.9 ± 0.07	1.1 ± 0.1	0.9 ± 0.1	0.7 ± 0.3	-0.1 ± 0.3	PMN J0336-1302	
03 39 24	−01 43	106	2.4 ± 0.07	2.3 ± 0.1	2.2 ± 0.1	1.7 ± 0.2	2.1 ± 0.3	-0.2 ± 0.1	PMN J0339-0146	
03 40 29	−21 19		1.1 ± 0.05	1.1 ± 0.07	1.1 ± 0.09	1.2 ± 0.1	1.2 ± 0.2	0.1 ± 0.2	PMN J0340-2119	
03 48 51	−27 47	129	1.2 ± 0.03	1.0 ± 0.06	0.9 ± 0.07	1.5 ± 0.2	···	-0.2 ± 0.2	PMN J0348-2749	
03 58 47	10 29		1.2 ± 0.1	1.1 ± 0.2	···	···	···	-0.1 ± 1	GB6 J0358+1026	
04 03 57	−36 04	136	3.4 ± 0.05	3.8 ± 0.08	3.6 ± 0.08	3.4 ± 0.1	3.0 ± 0.3	0.0 ± 0.07	PMN J0403-3605	
04 05 36	−13 04	114	2.0 ± 0.06	1.8 ± 0.09	1.7 ± 0.1	1.5 ± 0.2	···	-0.3 ± 0.2	PMN J0405-1308	
04 07 02	−38 25	141	1.1 ± 0.06	1.0 ± 0.1	0.9 ± 0.08	0.8 ± 0.1	···	-0.4 ± 0.3	PMN J0406-3826	
04 08 50	−75 06		0.8 ± 0.04	0.5 ± 0.06	0.3 ± 0.08	···	···	-1.4 ± 0.6	PMN J0408-7507	
04 11 23	76 54	082	1.0 ± 0.05	0.7 ± 0.1	0.7 ± 0.1	0.8 ± 0.2	0.8 ± 0.2	-0.3 ± 0.3	1Jy 0403+76	
04 16 32	−20 51		1.1 ± 0.05	1.1 ± 0.08	1.0 ± 0.08	0.8 ± 0.2	···	-0.1 ± 0.3	PMN J0416-2056	
04 23 16	−01 20	110	8.2 ± 0.06	8.3 ± 0.1	7.9 ± 0.1	7.1 ± 0.2	4.9 ± 0.4	-0.1 ± 0.05	PMN J0423-0120	
04 23 50	02 18		1.2 ± 0.05	1.0 ± 0.08	0.7 ± 0.09	···	···	-0.8 ± 0.4	GB6 J0424+0226	
04 24 53	00 35	109	1.5 ± 0.08	1.6 ± 0.1	1.8 ± 0.1	1.3 ± 0.2	···	0.2 ± 0.3	GB6 J0424+0036	
04 24 56	−37 57	140	1.5 ± 0.05	1.2 ± 0.1	1.2 ± 0.1	1.5 ± 0.2	···	-0.1 ± 0.2	PMN J0424-3756	
04 28 27	−37 57		1.5 ± 0.05	1.4 ± 0.08	1.3 ± 0.07	1.3 ± 0.2	1.2 ± 0.4	-0.2 ± 0.2	PMN J0428-3756	a

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
04 33 13	05 21	108	2.4 ± 0.06	2.4 ± 0.1	2.3 ± 0.1	2.5 ± 0.3	2.4 ± 0.4	-0.0 ± 0.2	GB6 J0433+0521	
04 40 16	−43 32	147	2.5 ± 0.06	2.3 ± 0.09	2.2 ± 0.08	1.7 ± 0.2	0.9 ± 0.2	-0.3 ± 0.1	PMN J0440-4332	
04 42 45	−00 17		0.9 ± 0.06	0.8 ± 0.1	1.2 ± 0.2	0.8 ± 0.2	0.8 ± 0.3	0.0 ± 0.4	PMN J0442-0017	
04 49 18	−81 00	175	1.7 ± 0.05	1.8 ± 0.08	1.6 ± 0.09	1.6 ± 0.1	1.4 ± 0.2	-0.0 ± 0.1	PMN J0450-8100	
04 53 19	−28 06	131	1.5 ± 0.06	1.5 ± 0.09	1.4 ± 0.08	1.2 ± 0.2	1.5 ± 0.4	-0.1 ± 0.2	PMN J0453-2807	
04 55 55	−46 17	151	3.9 ± 0.05	4.0 ± 0.09	4.0 ± 0.09	3.5 ± 0.2	2.7 ± 0.4	-0.0 ± 0.08	PMN J0455-4616	
04 56 59	−23 22	128	2.4 ± 0.04	2.5 ± 0.07	2.4 ± 0.1	1.9 ± 0.2	1.9 ± 0.5	-0.1 ± 0.1	PMN J0457-2324	
05 01 18	−01 59		1.1 ± 0.07	1.2 ± 0.1	1.1 ± 0.1	1.0 ± 0.3	···	-0.0 ± 0.4	PMN J0501-0159	
05 06 55	−61 08	154	2.1 ± 0.04	1.8 ± 0.06	1.6 ± 0.07	1.1 ± 0.1	0.8 ± 0.2	-0.5 ± 0.1	PMN J0506-6109	[a]
05 13 56	−21 55	127	1.1 ± 0.04	1.1 ± 0.06	0.9 ± 0.09	···	1.0 ± 0.3	-0.1 ± 0.3	PMN J0513-2159	
05 15 20	−45 58		···	···	0.9 ± 0.1	1.1 ± 0.2	···	0.4 ± 1	PMN J0515-4556	[a]
05 19 21	−05 39	116	2.4 ± 0.06	1.8 ± 0.07	1.2 ± 0.09	0.8 ± 0.1	···	-1.0 ± 0.2	PMN J0520-0537	[c]
05 19 42	−45 46	150	6.8 ± 0.05	5.3 ± 0.08	4.4 ± 0.1	3.3 ± 0.2	2.2 ± 0.3	-0.7 ± 0.06	PMN J0519-4546	[a]
05 23 02	−36 27	139	4.2 ± 0.05	3.9 ± 0.08	3.8 ± 0.1	3.5 ± 0.2	2.6 ± 0.2	-0.2 ± 0.07	PMN J0522-3628	
05 25 05	−23 37		0.7 ± 0.04	0.9 ± 0.06	0.7 ± 0.07	0.8 ± 0.2	···	0.1 ± 0.3	PMN J0525-2338	[a]
05 25 31	−48 26		0.9 ± 0.04	1.3 ± 0.07	1.3 ± 0.09	1.1 ± 0.1	0.8 ± 0.2	0.3 ± 0.2	PMN J0526-4830	[a]
05 27 34	−12 41	122	1.4 ± 0.05	1.6 ± 0.09	1.4 ± 0.1	1.2 ± 0.1	1.1 ± 0.3	-0.1 ± 0.2	PMN J0527-1241	
05 34 23	−61 07		0.5 ± 0.03	0.5 ± 0.05	0.6 ± 0.05	0.6 ± 0.09	···	0.0 ± 0.3	PMN J0534-6106	
05 38 52	−44 05	148	5.6 ± 0.05	5.9 ± 0.08	6.0 ± 0.09	5.4 ± 0.2	4.6 ± 0.3	0.0 ± 0.05	PMN J0538-4405	
05 39 48	−28 44		0.6 ± 0.09	0.6 ± 0.08	0.6 ± 0.1	0.7 ± 0.1	···	0.2 ± 0.5	PMN J0539-2839	
05 40 44	−54 15	152	1.4 ± 0.05	1.4 ± 0.07	1.4 ± 0.09	1.1 ± 0.1	···	-0.1 ± 0.2	PMN J0540-5418	
05 42 28	49 51	095	1.7 ± 0.07	1.3 ± 0.1	1.3 ± 0.1	0.8 ± 0.1	···	-0.7 ± 0.3	GB6 J0542+4951	
05 50 39	−57 31	153	1.2 ± 0.04	1.0 ± 0.05	1.0 ± 0.08	0.9 ± 0.1	···	-0.3 ± 0.2	PMN J0550-5732	
05 55 59	39 42	100	3.0 ± 0.06	2.4 ± 0.09	1.7 ± 0.1	···	···	-0.8 ± 0.2	GB6 J0555+3948	
05 59 53	−45 28		0.7 ± 0.05	1.0 ± 0.07	0.9 ± 0.06	0.7 ± 0.1	···	0.4 ± 0.4	PMN J0559-4529	
06 07 00	67 23	091	1.2 ± 0.04	0.9 ± 0.05	0.7 ± 0.08	0.6 ± 0.2	···	-0.7 ± 0.3	GB6 J0607+6720	[a]
06 08 47	−22 20		1.1 ± 0.04	1.1 ± 0.06	0.9 ± 0.08	0.6 ± 0.1	0.5 ± 0.2	-0.3 ± 0.3	PMN J0608-2220	
06 09 37	−15 41	126	3.7 ± 0.05	3.3 ± 0.09	3.1 ± 0.1	2.2 ± 0.2	1.9 ± 0.5	-0.3 ± 0.1	PMN J0609-1542	
06 21 02	−25 16		0.6 ± 0.06	0.5 ± 0.1	0.3 ± 0.1	···	···	-1.0 ± 1	PMN J0620-2515	
06 23 03	−64 36		0.9 ± 0.03	0.8 ± 0.05	0.8 ± 0.04	0.9 ± 0.06	0.9 ± 0.1	-0.1 ± 0.1	PMN J0623-6436	
06 26 34	−35 23		0.7 ± 0.06	0.5 ± 0.1	···	···	···	-0.9 ± 2	PMN J0627-3529	
06 29 28	−19 58	130	1.5 ± 0.04	1.4 ± 0.07	1.4 ± 0.1	1.2 ± 0.2	1.1 ± 0.3	-0.2 ± 0.2	PMN J0629-1959	
06 32 21	−69 28		0.4 ± 0.03	0.5 ± 0.04	0.4 ± 0.04	0.7 ± 0.1	0.6 ± 0.2	0.5 ± 0.3	···	
06 33 51	−22 18	135	0.5 ± 0.06	0.6 ± 0.07	0.7 ± 0.1	0.8 ± 0.2	0.9 ± 0.2	0.5 ± 0.4	PMN J0633-2223	
06 34 38	−23 37		0.6 ± 0.05	0.7 ± 0.08	0.6 ± 0.08	0.6 ± 0.2	···	0.1 ± 0.5	PMN J0634-2335	
06 35 51	−75 17	167	4.3 ± 0.04	3.9 ± 0.06	3.6 ± 0.07	2.6 ± 0.1	2.5 ± 0.4	-0.3 ± 0.06	PMN J0635-7516	
06 36 31	−20 31	134	1.1 ± 0.04	1.1 ± 0.06	1.0 ± 0.08	0.7 ± 0.1	···	-0.3 ± 0.3	PMN J0636-2041	[a]

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
06 39 39	73 27	087	0.8 ± 0.05	0.4 ± 0.1	0.8 ± 0.1	0.8 ± 0.1	1.0 ± 0.2	0.1 ± 0.3	GB6 J0639+7324	
06 46 30	44 49	099	2.9 ± 0.06	2.4 ± 0.1	2.1 ± 0.1	1.6 ± 0.2	1.3 ± 0.3	-0.5 ± 0.2	GB6 J0646+4451	
07 20 05	−62 22		0.6 ± 0.04	0.7 ± 0.06	0.8 ± 0.05	0.5 ± 0.09	0.7 ± 0.3	0.2 ± 0.3	PMN J0719-6218	
07 20 36	04 03		0.9 ± 0.05	0.7 ± 0.08	0.6 ± 0.1	···	···	-0.6 ± 0.5	GB6 J0720+0404	
07 21 54	71 22		1.6 ± 0.04	1.8 ± 0.07	1.9 ± 0.08	1.8 ± 0.2	1.5 ± 0.2	0.2 ± 0.1	GB6 J0721+7120	
07 25 52	−00 50		0.9 ± 0.1	1.2 ± 0.1	1.1 ± 0.1	1.0 ± 0.3	1.1 ± 0.2	0.1 ± 0.4	PMN J0725-0054	
07 27 09	67 49		0.6 ± 0.05	0.5 ± 0.08	0.6 ± 0.1	0.8 ± 0.3	···	-0.0 ± 0.5	GB6 J0728+6748	
07 38 13	17 43	113	1.3 ± 0.06	1.3 ± 0.1	1.0 ± 0.1	1.3 ± 0.3	···	-0.2 ± 0.3	GB6 J0738+1742	
07 39 15	01 36	124	1.7 ± 0.06	1.9 ± 0.1	2.1 ± 0.1	2.3 ± 0.2	2.8 ± 1	0.3 ± 0.2	GB6 J0739+0136	
07 41 18	31 11	107	1.2 ± 0.06	1.1 ± 0.1	0.8 ± 0.1	1.0 ± 0.3	···	-0.3 ± 0.4	GB6 J0741+3112	
07 43 49	−67 27	161	1.2 ± 0.04	0.9 ± 0.07	0.7 ± 0.08	0.7 ± 0.2	1.0 ± 0.2	-0.5 ± 0.2	PMN J0743-6726	
07 45 24	10 16	118	1.1 ± 0.06	0.8 ± 0.1	0.7 ± 0.1	1.0 ± 0.4	···	-0.5 ± 0.5	GB6 J0745+1011	
07 46 04	−00 45		1.1 ± 0.07	1.0 ± 0.1	0.8 ± 0.1	0.7 ± 0.1	···	-0.5 ± 0.4	PMN J0745-0044	
07 50 52	12 30	117	2.7 ± 0.06	2.6 ± 0.1	2.6 ± 0.1	2.1 ± 0.2	1.8 ± 0.3	-0.2 ± 0.1	GB6 J0750+1231	
07 53 32	53 54		1.0 ± 0.06	1.0 ± 0.08	0.9 ± 0.09	0.9 ± 0.2	···	-0.2 ± 0.3	GB6 J0753+5353	[a]
07 57 03	09 57	120	1.3 ± 0.08	1.3 ± 0.1	1.5 ± 0.1	1.4 ± 0.3	···	0.2 ± 0.3	GB6 J0757+0956	
08 05 43	61 33		0.7 ± 0.05	0.5 ± 0.06	0.7 ± 0.08	1.0 ± 0.3	···	0.0 ± 0.4	···	
08 08 22	−07 50	133	1.3 ± 0.05	1.3 ± 0.08	1.2 ± 0.1	1.3 ± 0.2	0.9 ± 0.2	-0.1 ± 0.2	PMN J0808-0751	
08 13 26	48 17		1.0 ± 0.06	1.0 ± 0.09	0.7 ± 0.1	0.7 ± 0.2	···	-0.4 ± 0.4	GB6 J0813+4813	
08 16 19	−24 25	145	0.8 ± 0.05	1.0 ± 0.06	1.1 ± 0.08	0.8 ± 0.2	···	0.3 ± 0.3	PMN J0816-2421	
08 23 26	22 25		1.1 ± 0.06	1.2 ± 0.09	1.2 ± 0.1	0.6 ± 0.2	···	0.0 ± 0.4	GB6 J0823+2223	†
08 24 54	39 14		1.2 ± 0.07	1.0 ± 0.1	1.1 ± 0.1	1.1 ± 0.2	1.4 ± 0.7	-0.1 ± 0.3	GB6 J0824+3916	[a]
08 25 50	03 11	125	1.6 ± 0.06	1.9 ± 0.09	1.9 ± 0.1	1.6 ± 0.2	···	0.1 ± 0.2	GB6 J0825+0309	
08 31 00	24 11	112	1.3 ± 0.08	1.3 ± 0.1	1.5 ± 0.2	1.5 ± 0.2	1.3 ± 0.3	0.2 ± 0.3	GB6 J0830+2410	
08 34 51	55 33		0.9 ± 0.06	0.7 ± 0.08	0.5 ± 0.1	1.1 ± 0.4	0.7 ± 0.3	-0.4 ± 0.5	GB6 J0834+5534	
08 36 47	−20 15	144	2.8 ± 0.05	2.4 ± 0.09	2.3 ± 0.09	1.8 ± 0.2	0.8 ± 0.3	-0.4 ± 0.1	PMN J0836-2017	
08 38 11	58 22		1.1 ± 0.04	1.1 ± 0.07	0.9 ± 0.09	1.0 ± 0.2	···	-0.2 ± 0.3	GB6 J0837+5825	[a]
08 40 42	13 12	121	1.9 ± 0.07	2.0 ± 0.1	1.8 ± 0.1	1.0 ± 0.2	···	-0.1 ± 0.2	GB6 J0840+1312	
08 41 28	70 53	089	1.7 ± 0.04	1.7 ± 0.07	1.8 ± 0.09	1.5 ± 0.2	0.5 ± 0.2	-0.1 ± 0.2	GB6 J0841+7053	
08 47 45	−07 04		0.9 ± 0.06	1.0 ± 0.09	1.0 ± 0.1	1.2 ± 0.3	···	0.2 ± 0.4	PMN J0847-0703	
08 54 47	20 06	115	3.8 ± 0.07	4.4 ± 0.1	4.1 ± 0.1	4.2 ± 0.2	3.5 ± 0.5	0.1 ± 0.1	GB6 J0854+2006	
09 02 17	−14 13		1.2 ± 0.06	1.3 ± 0.08	1.2 ± 0.09	1.3 ± 0.1	···	0.1 ± 0.2	PMN J0902-1415	
09 07 58	−20 20		1.1 ± 0.05	1.0 ± 0.09	0.7 ± 0.1	1.0 ± 0.1	···	-0.3 ± 0.3	PMN J0907-2026	
09 09 16	01 19	132	2.1 ± 0.06	2.0 ± 0.1	1.9 ± 0.2	2.0 ± 0.2	···	-0.1 ± 0.2	GB6 J0909+0121	
09 09 48	42 53		1.0 ± 0.07	1.1 ± 0.1	1.2 ± 0.1	0.9 ± 0.2	···	0.2 ± 0.4	GB6 J0909+4253	
09 14 41	02 48		1.4 ± 0.06	1.6 ± 0.1	1.4 ± 0.1	0.8 ± 0.4	1.4 ± 0.3	0.0 ± 0.2	GB6 J0914+0245	
09 18 10	−12 03	143	2.0 ± 0.07	1.0 ± 0.1	0.9 ± 0.2	0.9 ± 0.3	···	-1.3 ± 0.5	PMN J0918-1205	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
09 20 40	44 41		1.3 ± 0.07	1.4 ± 0.1	1.4 ± 0.1	1.4 ± 0.2	0.6 ± 0.3	0.0 ± 0.3	GB6 J0920+4441	
09 21 05	62 15		0.9 ± 0.05	0.8 ± 0.07	0.9 ± 0.1	···	···	-0.1 ± 0.5	GB6 J0921+6215	
09 21 39	−26 19		1.5 ± 0.05	1.4 ± 0.08	1.3 ± 0.1	1.2 ± 0.2	0.8 ± 0.3	-0.2 ± 0.2	PMN J0921-2618	
09 27 05	39 01	105	6.7 ± 0.07	5.8 ± 0.1	5.5 ± 0.1	4.4 ± 0.2	2.8 ± 0.3	-0.4 ± 0.07	GB6 J0927+3902	
09 48 53	40 38	104	1.3 ± 0.06	1.5 ± 0.1	1.3 ± 0.1	0.9 ± 0.2	1.0 ± 0.3	-0.1 ± 0.3	GB6 J0948+4039	
09 55 47	69 35	088	1.3 ± 0.05	1.2 ± 0.07	1.0 ± 0.07	0.9 ± 0.1	1.3 ± 0.4	-0.3 ± 0.2	GB6 J0955+6940	
09 57 24	55 27		0.9 ± 0.05	0.9 ± 0.1	1.0 ± 0.1	0.8 ± 0.2	···	-0.0 ± 0.4	GB6 J0957+5522	[a]
09 58 08	47 22	098	1.6 ± 0.06	1.4 ± 0.09	1.4 ± 0.09	0.9 ± 0.1	···	-0.4 ± 0.2	GB6 J0958+4725	
09 59 25	65 30		0.9 ± 0.05	0.9 ± 0.06	0.7 ± 0.08	0.8 ± 0.1	0.8 ± 0.2	-0.2 ± 0.3	GB6 J0958+6534	
10 14 01	23 06	119	1.1 ± 0.06	0.9 ± 0.1	0.7 ± 0.07	0.7 ± 0.2	···	-0.6 ± 0.3	···	
10 15 20	−45 11		1.1 ± 0.04	0.8 ± 0.06	0.7 ± 0.08	···	···	-0.8 ± 0.4	PMN J1014-4508	
10 17 37	35 51		0.9 ± 0.05	0.9 ± 0.08	0.8 ± 0.1	0.6 ± 0.2	0.9 ± 0.3	-0.1 ± 0.3	GB6 J1018+3550	
10 18 53	−31 32		0.9 ± 0.05	0.9 ± 0.07	0.7 ± 0.09	0.6 ± 0.2	···	-0.3 ± 0.4	PMN J1018-3123	
10 21 33	40 03		0.9 ± 0.04	0.9 ± 0.07	0.9 ± 0.08	···	···	-0.1 ± 0.4	GB6 J1022+4004	
10 32 33	41 18	103	0.9 ± 0.05	0.8 ± 0.09	0.7 ± 0.1	0.8 ± 0.2	0.8 ± 0.3	-0.2 ± 0.3	GB6 J1033+4115	
10 37 22	−29 34		1.6 ± 0.06	1.6 ± 0.09	1.4 ± 0.1	1.6 ± 0.3	1.7 ± 0.3	0.0 ± 0.2	PMN J1037-2934	
10 38 38	05 10	142	1.4 ± 0.06	1.5 ± 0.1	1.1 ± 0.2	1.1 ± 0.2	0.9 ± 0.3	-0.3 ± 0.3	GB6 J1038+0512	
10 41 27	06 11		1.2 ± 0.07	1.4 ± 0.1	1.2 ± 0.1	1.1 ± 0.2	···	0.0 ± 0.3	GB6 J1041+0610	
10 41 38	−47 38	163	1.1 ± 0.05	···	0.5 ± 0.06	···	···	-1.3 ± 0.5	PMN J1041-4740	
10 43 01	24 07		0.8 ± 0.08	0.8 ± 0.1	0.8 ± 0.1	···	···	-0.0 ± 0.7	GB6 J1043+2408	
10 47 44	71 43	083	1.4 ± 0.06	1.4 ± 0.1	1.2 ± 0.1	1.3 ± 0.3	···	-0.1 ± 0.3	GB6 J1048+7143	
10 47 56	−19 09		1.3 ± 0.06	1.1 ± 0.09	1.1 ± 0.2	1.2 ± 0.3	···	-0.3 ± 0.4	PMN J1048-1909	
10 53 29	81 09		0.9 ± 0.05	0.9 ± 0.07	···	···	···	-0.1 ± 0.6	···	
10 58 27	01 34	149	4.6 ± 0.06	4.4 ± 0.09	4.5 ± 0.1	4.4 ± 0.2	3.1 ± 0.9	-0.1 ± 0.08	GB6 J1058+0133	
10 59 22	−80 03	176	2.1 ± 0.05	2.3 ± 0.07	2.2 ± 0.08	2.3 ± 0.2	1.4 ± 0.3	0.0 ± 0.1	PMN J1058-8003	
11 02 13	−44 03		0.7 ± 0.04	0.8 ± 0.05	0.8 ± 0.1	0.8 ± 0.1	···	0.2 ± 0.3	PMN J1102-4404	
11 07 11	−44 46	166	1.5 ± 0.04	1.5 ± 0.05	1.2 ± 0.07	1.4 ± 0.2	0.9 ± 0.2	-0.3 ± 0.2	PMN J1107-4449	
11 18 06	−46 33		1.0 ± 0.04	0.8 ± 0.07	0.7 ± 0.07	0.7 ± 0.3	···	-0.5 ± 0.3	PMN J1118-4634	
11 18 33	−12 33		1.0 ± 0.06	0.9 ± 0.07	0.8 ± 0.09	0.9 ± 0.2	···	-0.3 ± 0.3	PMN J1118-1232	[a]
11 18 46	12 40		0.9 ± 0.06	0.9 ± 0.1	0.7 ± 0.1	0.8 ± 0.2	···	-0.3 ± 0.5	GB6 J1118+1234	[a]
11 27 06	−18 58	159	1.5 ± 0.06	1.5 ± 0.1	1.4 ± 0.1	1.1 ± 0.2	1.3 ± 0.3	-0.1 ± 0.2	PMN J1127-1857	
11 30 12	−14 51	157	1.8 ± 0.06	1.7 ± 0.1	1.9 ± 0.1	1.3 ± 0.2	···	-0.1 ± 0.2	PMN J1130-1449	
11 30 45	38 14	101	1.2 ± 0.06	1.0 ± 0.09	1.1 ± 0.1	0.8 ± 0.2	0.9 ± 0.3	-0.3 ± 0.3	GB6 J1130+3815	[a]
11 36 57	−74 16		0.8 ± 0.04	0.7 ± 0.07	0.5 ± 0.09	0.5 ± 0.2	···	-0.5 ± 0.5	PMN J1136-7415	
11 46 20	−48 42		0.7 ± 0.04	0.7 ± 0.06	0.5 ± 0.08	0.8 ± 0.1	···	0.0 ± 0.3	PMN J1145-4836	[a]
11 46 43	40 01		0.9 ± 0.06	1.0 ± 0.07	1.1 ± 0.07	0.4 ± 0.1	···	0.1 ± 0.3	GB6 J1146+3958	[a]
11 47 07	−38 11	169	2.1 ± 0.05	2.3 ± 0.09	2.2 ± 0.09	1.9 ± 0.2	1.1 ± 0.2	-0.1 ± 0.1	PMN J1147-3812	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
11 50 12	−79 27		1.2 ± 0.04	0.7 ± 0.06	0.6 ± 0.08	0.6 ± 0.1	···	-1.1 ± 0.3	PMN J1150-7918	
11 50 53	−00 24		0.8 ± 0.08	0.7 ± 0.1	0.7 ± 0.2	···	···	-0.2 ± 0.8	PMN J1150-0024	
11 53 15	49 32	090	2.1 ± 0.04	2.2 ± 0.07	2.2 ± 0.08	2.0 ± 0.2	1.2 ± 0.3	-0.0 ± 0.1	GB6 J1153+4931	a
11 55 02	81 04	078	1.2 ± 0.06	1.0 ± 0.1	0.9 ± 0.09	1.0 ± 0.2	1.1 ± 0.3	-0.2 ± 0.3	1Jy 1150+81	
11 57 44	16 38		0.8 ± 0.05	1.1 ± 0.09	0.8 ± 0.09	0.8 ± 0.2	0.7 ± 0.3	0.0 ± 0.3	GB6 J1157+1639	
11 59 35	29 15	111	2.0 ± 0.05	2.2 ± 0.09	2.2 ± 0.1	2.0 ± 0.2	2.0 ± 0.4	0.0 ± 0.1	GB6 J1159+2914	
12 03 30	48 08		0.8 ± 0.04	0.7 ± 0.06	0.6 ± 0.08	0.7 ± 0.3	0.6 ± 0.2	-0.3 ± 0.3	GB6 J1203+4803	a
12 09 02	−24 03	172	1.3 ± 0.06	1.0 ± 0.09	0.9 ± 0.09	···	···	-0.6 ± 0.4	PMN J1209-2406	
12 15 56	−17 29	173	1.4 ± 0.06	1.2 ± 0.1	1.1 ± 0.1	0.8 ± 0.2	···	-0.4 ± 0.3	PMN J1215-1731	
12 18 53	48 30		0.7 ± 0.03	0.7 ± 0.05	0.7 ± 0.08	0.7 ± 0.1	0.6 ± 0.2	0.0 ± 0.3	GB6 J1219+4830	
12 19 21	05 49	164	2.7 ± 0.06	2.2 ± 0.1	2.0 ± 0.1	1.4 ± 0.2	2.0 ± 0.6	-0.5 ± 0.2	GB6 J1219+0549A	a
12 22 06	04 14		0.7 ± 0.07	0.7 ± 0.1	1.0 ± 0.2	···	···	0.4 ± 0.7	GB6 J1222+0413	
12 23 53	−83 06	178	0.8 ± 0.06	0.9 ± 0.06	0.8 ± 0.06	0.7 ± 0.1	0.8 ± 0.3	-0.1 ± 0.3	PMN J1224-8312	
12 29 06	02 03	170	20.0 ± 0.06	18.4 ± 0.1	16.8 ± 0.1	14.6 ± 0.2	10.5 ± 0.4	-0.3 ± 0.02	GB6 J1229+0202	
12 30 51	12 23	165	19.7 ± 0.06	15.5 ± 0.09	13.3 ± 0.1	9.7 ± 0.2	6.2 ± 0.4	-0.7 ± 0.02	GB6 J1230+1223	
12 39 25	07 28		1.0 ± 0.06	1.0 ± 0.1	0.9 ± 0.09	1.0 ± 0.2	···	-0.2 ± 0.3	GB6 J1239+0730	
12 46 53	−25 47	177	1.3 ± 0.06	1.4 ± 0.1	1.6 ± 0.1	1.5 ± 0.2	1.4 ± 0.5	0.2 ± 0.2	PMN J1246-2547	
12 48 50	−46 00		0.8 ± 0.08	0.8 ± 0.1	0.9 ± 0.09	0.9 ± 0.2	1.4 ± 0.3	0.3 ± 0.3	PMN J1248-4559	
12 54 50	11 42		0.9 ± 0.06	0.9 ± 0.08	0.8 ± 0.09	···	···	-0.2 ± 0.4	GB6 J1254+1141	
12 56 12	−05 47	181	17.1 ± 0.06	17.9 ± 0.1	18.2 ± 0.1	17.0 ± 0.2	13.3 ± 0.4	0.0 ± 0.02	PMN J1256-0547	
12 58 09	−31 58	180	1.3 ± 0.05	1.1 ± 0.07	1.1 ± 0.1	0.5 ± 0.2	1.6 ± 0.5	-0.2 ± 0.3	PMN J1257-3154	
12 58 26	32 26		0.7 ± 0.05	0.6 ± 0.09	0.8 ± 0.1	0.5 ± 0.2	0.5 ± 0.2	-0.1 ± 0.5	GB6 J1257+3229	a
12 58 54	−22 23		1.0 ± 0.06	0.8 ± 0.1	0.8 ± 0.1	0.7 ± 0.2	···	-0.3 ± 0.4	PMN J1258-2219	
12 59 27	51 41		0.6 ± 0.06	0.6 ± 0.09	0.6 ± 0.1	0.9 ± 0.2	1.0 ± 0.3	0.4 ± 0.4	GB6 J1259+5141	a
13 02 22	57 48		0.8 ± 0.05	0.7 ± 0.06	0.5 ± 0.09	0.6 ± 0.2	0.6 ± 0.2	-0.4 ± 0.4	GB6 J1302+5748	a
13 05 54	−49 30		1.1 ± 0.05	1.0 ± 0.08	0.8 ± 0.09	1.1 ± 0.2	1.0 ± 0.3	-0.1 ± 0.3	PMN J1305-4928	
13 10 38	32 22	052	2.5 ± 0.05	2.5 ± 0.09	2.3 ± 0.1	1.6 ± 0.2	···	-0.2 ± 0.1	GB6 J1310+3220	
13 16 06	−33 37	182	1.7 ± 0.06	1.7 ± 0.09	1.9 ± 0.1	1.9 ± 0.2	1.6 ± 0.4	0.1 ± 0.2	PMN J1316-3339	
13 24 32	−10 47		0.8 ± 0.08	0.8 ± 0.1	0.9 ± 0.1	1.2 ± 0.2	2.1 ± 0.6	0.5 ± 0.4	PMN J1324-1049	
13 27 35	22 13		0.9 ± 0.06	0.8 ± 0.08	0.7 ± 0.1	0.4 ± 0.2	···	-0.4 ± 0.5	GB6 J1327+2210	a
13 29 01	32 00	040	0.8 ± 0.04	0.6 ± 0.08	0.4 ± 0.07	0.4 ± 0.2	···	-0.9 ± 0.5	···	
13 30 53	25 02		1.1 ± 0.05	1.0 ± 0.07	0.9 ± 0.09	0.8 ± 0.1	0.7 ± 0.2	-0.4 ± 0.3	GB6 J1330+2509	a
13 31 17	30 30	026	2.2 ± 0.05	1.8 ± 0.09	1.4 ± 0.1	1.2 ± 0.2	···	-0.7 ± 0.2	GB6 J1331+3030	
13 32 52	02 00		1.4 ± 0.05	1.4 ± 0.09	1.3 ± 0.1	1.2 ± 0.2	1.2 ± 0.3	-0.1 ± 0.2	GB6 J1332+0200	
13 33 29	27 23		0.8 ± 0.06	0.9 ± 0.08	0.8 ± 0.08	0.7 ± 0.1	···	-0.1 ± 0.4	GB6 J1333+2725	a
13 36 50	−33 58	185	1.9 ± 0.06	1.5 ± 0.07	1.2 ± 0.09	1.1 ± 0.2	···	-0.7 ± 0.2	PMN J1336-3358	
13 37 40	−12 57	188	5.8 ± 0.06	6.0 ± 0.1	6.1 ± 0.1	5.7 ± 0.2	3.9 ± 0.3	0.0 ± 0.06	PMN J1337-1257	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
13 44 00	66 01		0.7 ± 0.07	0.4 ± 0.1	0.5 ± 0.1	0.2 ± 0.1	0.9 ± 0.2	-0.2 ± 0.4	GB6 J1344+6606	a
13 47 48	12 18		1.0 ± 0.06	1.1 ± 0.09	0.9 ± 0.1	0.9 ± 0.2	···	-0.0 ± 0.4	GB6 J1347+1217	
13 54 51	−10 41	197	1.6 ± 0.06	1.2 ± 0.1	1.2 ± 0.2	1.4 ± 0.3	0.7 ± 0.3	-0.4 ± 0.3	PMN J1354-1041	
13 55 56	76 47		0.7 ± 0.06	0.8 ± 0.1	0.4 ± 0.1	···	···	-0.3 ± 0.8	···	d
13 56 53	−15 25		0.8 ± 0.08	0.9 ± 0.2	0.7 ± 0.2	0.8 ± 0.3	0.9 ± 0.3	0.0 ± 0.5	PMN J1357-1527	
13 56 56	19 19	004	1.4 ± 0.06	1.6 ± 0.09	1.4 ± 0.1	1.4 ± 0.2	···	0.1 ± 0.2	GB6 J1357+1919	
14 08 53	−07 49	203	1.1 ± 0.07	1.0 ± 0.1	1.0 ± 0.1	0.6 ± 0.2	···	-0.3 ± 0.4	1Jy 1406-076	
14 11 25	52 17		0.9 ± 0.05	0.3 ± 0.1	···	···	···	-2.8 ± 2	GB6 J1411+5212	
14 15 46	13 22		0.9 ± 0.06	1.0 ± 0.09	0.8 ± 0.09	1.1 ± 0.5	0.8 ± 0.3	0.1 ± 0.4	GB6 J1415+1320	
14 19 32	54 25		0.8 ± 0.06	0.8 ± 0.09	0.8 ± 0.08	1.3 ± 0.2	···	0.2 ± 0.4	GB6 J1419+5423	a
14 19 38	38 22	042	1.1 ± 0.04	1.2 ± 0.06	1.1 ± 0.06	1.3 ± 0.1	···	0.2 ± 0.2	GB6 J1419+3822	
14 20 07	27 04		0.9 ± 0.06	1.1 ± 0.08	1.0 ± 0.07	0.8 ± 0.1	1.0 ± 0.2	0.1 ± 0.3	GB6 J1419+2706	a
14 27 28	−33 02	193	1.0 ± 0.06	1.4 ± 0.09	1.7 ± 0.1	1.5 ± 0.2	···	0.6 ± 0.3	PMN J1427-3306	
14 27 53	−42 06	191	3.1 ± 0.05	2.9 ± 0.08	2.8 ± 0.1	2.7 ± 0.2	1.9 ± 0.3	-0.2 ± 0.1	PMN J1427-4206	
14 37 02	63 37		0.5 ± 0.06	···	···	0.7 ± 0.2	···	0.3 ± 0.7	GB6 J1436+6336	a
14 42 57	51 55		0.8 ± 0.05	0.9 ± 0.07	0.8 ± 0.08	0.9 ± 0.2	1.0 ± 0.3	0.1 ± 0.3	GB6 J1443+5201	
14 46 55	−16 21		1.0 ± 0.06	1.0 ± 0.09	0.8 ± 0.09	0.9 ± 0.1	···	-0.3 ± 0.3	···	
14 57 20	−35 36		0.8 ± 0.1	0.9 ± 0.1	1.0 ± 0.1	0.9 ± 0.2	1.0 ± 0.4	0.2 ± 0.4	PMN J1457-3538	
14 58 32	71 40	071	1.3 ± 0.07	1.2 ± 0.1	0.9 ± 0.09	···	0.6 ± 0.2	-0.6 ± 0.3	GB6 J1459+7140	
15 04 32	10 30	006	1.6 ± 0.05	1.5 ± 0.09	1.3 ± 0.09	0.8 ± 0.1	···	-0.4 ± 0.2	GB6 J1504+1029	
15 06 55	−16 44		1.4 ± 0.08	1.3 ± 0.2	1.0 ± 0.2	0.8 ± 0.2	···	-0.5 ± 0.4	PMN J1507-1652	a
15 10 38	−05 46		1.1 ± 0.07	1.1 ± 0.1	1.1 ± 0.1	0.8 ± 0.2	···	-0.1 ± 0.4	PMN J1510-0543	
15 12 46	−09 04	207	1.8 ± 0.06	1.7 ± 0.1	1.9 ± 0.1	1.9 ± 0.2	1.6 ± 0.4	0.0 ± 0.2	1Jy 1510-08	
15 13 49	−10 00		1.3 ± 0.06	1.0 ± 0.1	0.9 ± 0.2	1.3 ± 0.3	···	-0.3 ± 0.4	···	
15 16 38	00 14	002	1.6 ± 0.06	1.8 ± 0.09	1.7 ± 0.1	1.5 ± 0.2	0.7 ± 0.3	0.0 ± 0.2	GB6 J1516+0015	
15 17 44	−24 21	205	2.0 ± 0.06	2.1 ± 0.1	2.1 ± 0.1	2.0 ± 0.2	2.3 ± 0.5	0.0 ± 0.2	PMN J1517-2422	
15 40 58	14 47		1.0 ± 0.06	0.8 ± 0.09	0.8 ± 0.1	0.8 ± 0.2	···	-0.4 ± 0.4	GB6 J1540+1447	
15 49 21	50 36		0.9 ± 0.06	0.8 ± 0.09	1.0 ± 0.1	0.7 ± 0.2	0.6 ± 0.3	-0.1 ± 0.4	GB6 J1549+5038	
15 49 32	02 36	005	2.7 ± 0.06	2.9 ± 0.1	2.4 ± 0.1	2.1 ± 0.2	2.2 ± 0.6	-0.2 ± 0.1	GB6 J1549+0237	
15 50 39	05 26	007	2.5 ± 0.06	2.1 ± 0.09	1.9 ± 0.1	2.0 ± 0.2	1.4 ± 0.3	-0.4 ± 0.2	GB6 J1550+0527	
16 02 00	33 29		0.9 ± 0.04	0.8 ± 0.06	0.8 ± 0.06	0.5 ± 0.1	0.8 ± 0.3	-0.2 ± 0.3	GB6 J1602+3326	
16 04 34	57 18		0.7 ± 0.04	0.7 ± 0.07	0.8 ± 0.06	0.5 ± 0.1	0.6 ± 0.2	-0.1 ± 0.3	GB6 J1604+5714	a
16 08 52	10 27	009	2.0 ± 0.06	2.0 ± 0.1	1.9 ± 0.1	1.5 ± 0.2	1.1 ± 0.4	-0.2 ± 0.2	GB6 J1608+1029	
16 13 42	34 12	023	4.1 ± 0.05	3.7 ± 0.08	3.4 ± 0.08	2.8 ± 0.2	1.8 ± 0.3	-0.3 ± 0.08	GB6 J1613+3412	
16 18 01	−77 16	183	2.4 ± 0.05	2.1 ± 0.07	1.9 ± 0.08	1.5 ± 0.2	0.9 ± 0.2	-0.4 ± 0.1	PMN J1617-7717	
16 23 25	−68 17		0.7 ± 0.04	0.6 ± 0.06	0.6 ± 0.07	···	···	-0.3 ± 0.4	PMN J1624-6809	
16 26 17	41 27		0.9 ± 0.05	0.8 ± 0.08	0.7 ± 0.08	0.7 ± 0.2	···	-0.3 ± 0.3	GB6 J1625+4134	a

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
16 33 20	82 26	076	1.3 ± 0.04	1.5 ± 0.07	1.5 ± 0.08	1.2 ± 0.1	0.7 ± 0.3	-0.0 ± 0.2	...	[e]
16 35 16	38 07	033	3.9 ± 0.05	4.3 ± 0.08	4.2 ± 0.08	3.8 ± 0.1	3.1 ± 0.3	0.1 ± 0.07	GB6 J1635+3808	
16 37 31	47 13		0.9 ± 0.05	1.0 ± 0.08	1.0 ± 0.1	0.9 ± 0.1	...	0.0 ± 0.3	GB6 J1637+4717	
16 37 52	−77 14		1.4 ± 0.05	0.9 ± 0.09	0.8 ± 0.09	0.7 ± 0.1	...	-0.8 ± 0.3	PMN J1636-7713	
16 38 16	57 22	056	1.3 ± 0.04	1.3 ± 0.07	1.4 ± 0.08	1.7 ± 0.2	1.0 ± 0.3	0.1 ± 0.2	GB6 J1638+5720	
16 42 34	68 54	069	1.4 ± 0.05	1.5 ± 0.08	1.5 ± 0.09	1.7 ± 0.2	1.2 ± 0.2	0.0 ± 0.2	GB6 J1642+6856	[a]
16 42 55	39 48	035	6.5 ± 0.05	6.0 ± 0.08	5.5 ± 0.08	4.9 ± 0.2	3.9 ± 0.3	-0.3 ± 0.05	GB6 J1642+3948	
16 51 07	04 58	010	1.6 ± 0.07	1.1 ± 0.1	1.0 ± 0.2	0.7 ± 0.1	...	-0.9 ± 0.4	GB6 J1651+0459	
16 54 10	39 39	036	1.2 ± 0.05	1.2 ± 0.08	0.9 ± 0.07	0.5 ± 0.2	...	-0.5 ± 0.3	GB6 J1653+3945	[a]
16 57 01	57 06		0.5 ± 0.06	0.6 ± 0.09	0.6 ± 0.1	0.7 ± 0.1	0.8 ± 0.2	0.4 ± 0.4	GB6 J1657+5705	
16 57 26	47 54		1.1 ± 0.04	0.9 ± 0.06	0.7 ± 0.06	...	...	-0.6 ± 0.3	...	[f]
16 58 05	07 42	013	1.4 ± 0.05	1.5 ± 0.07	1.4 ± 0.1	1.6 ± 0.2	1.6 ± 0.7	0.1 ± 0.2	GB6 J1658+0741	
16 58 51	05 13		0.8 ± 0.06	0.6 ± 0.09	0.5 ± 0.09	0.4 ± 0.2	...	-0.8 ± 0.5	GB6 J1658+0515	
16 59 52	68 27		0.2 ± 0.06	0.5 ± 0.08	0.6 ± 0.08	0.7 ± 0.09	0.6 ± 0.1	0.5 ± 0.5	GB6 J1700+6830	
17 03 37	−62 14	198	1.7 ± 0.04	1.7 ± 0.07	1.7 ± 0.07	1.4 ± 0.1	...	-0.1 ± 0.2	PMN J1703-6212	
17 07 37	01 48		0.8 ± 0.06	0.9 ± 0.1	0.7 ± 0.08	0.8 ± 0.2	...	-0.0 ± 0.4	GB6 J1707+0148	
17 15 50	68 39		0.6 ± 0.04	0.6 ± 0.06	0.6 ± 0.07	...	0.7 ± 0.2	0.1 ± 0.4	GB6 J1716+6836	
17 24 00	−65 00	196	2.3 ± 0.05	2.0 ± 0.08	1.6 ± 0.09	1.1 ± 0.2	1.2 ± 0.3	-0.6 ± 0.2	PMN J1723-6500	
17 27 23	45 30	043	0.9 ± 0.04	1.0 ± 0.08	0.8 ± 0.07	1.2 ± 0.2	1.1 ± 0.3	0.1 ± 0.3	GB6 J1727+4530	
17 34 16	38 57	038	1.2 ± 0.05	1.3 ± 0.08	1.2 ± 0.09	1.3 ± 0.2	...	0.1 ± 0.2	GB6 J1734+3857	
17 36 12	−79 34	186	1.0 ± 0.04	1.1 ± 0.07	1.2 ± 0.07	0.9 ± 0.1	...	0.1 ± 0.2	PMN J1733-7935	
17 38 26	50 15		0.8 ± 0.04	0.5 ± 0.08	0.6 ± 0.08	0.5 ± 0.1	...	-0.5 ± 0.4	...	
17 40 11	47 40		0.8 ± 0.05	0.8 ± 0.06	0.9 ± 0.08	0.8 ± 0.2	...	0.1 ± 0.3	GB6 J1739+4738	
17 40 34	52 12	048	1.2 ± 0.04	1.2 ± 0.07	1.3 ± 0.1	1.2 ± 0.2	0.8 ± 0.3	-0.0 ± 0.2	GB6 J1740+5211	
17 48 55	70 06	068	0.6 ± 0.03	0.7 ± 0.06	0.8 ± 0.06	1.0 ± 0.1	0.7 ± 0.1	0.4 ± 0.2	GB6 J1748+7005	
17 53 24	44 08		0.7 ± 0.06	0.6 ± 0.1	0.8 ± 0.09	...	1.1 ± 0.3	0.3 ± 0.4	GB6 J1753+4410	
17 53 33	28 48	022	2.1 ± 0.05	1.9 ± 0.07	2.1 ± 0.08	2.2 ± 0.2	1.6 ± 0.7	-0.0 ± 0.1	GB6 J1753+2847	
17 58 58	66 32	064	0.6 ± 0.02	0.6 ± 0.03	0.6 ± 0.05	0.4 ± 0.1	...	-0.1 ± 0.2	GB6 J1758+6638	[a]
17 59 50	38 52		0.9 ± 0.05	0.8 ± 0.07	0.7 ± 0.1	...	...	-0.4 ± 0.5	GB6 J1800+3848	[a]
18 00 27	78 27	072	1.8 ± 0.05	1.7 ± 0.07	1.6 ± 0.08	1.5 ± 0.2	0.9 ± 0.2	-0.3 ± 0.2	1Jy 1803+78	
18 01 32	44 04		1.2 ± 0.04	1.4 ± 0.07	1.6 ± 0.1	1.5 ± 0.2	1.1 ± 0.2	0.2 ± 0.2	GB6 J1801+4404	
18 03 00	−65 07	199	1.2 ± 0.05	1.1 ± 0.08	1.3 ± 0.09	1.1 ± 0.2	0.9 ± 0.2	-0.0 ± 0.2	PMN J1803-6507	
18 06 47	69 49	067	1.4 ± 0.03	1.4 ± 0.06	1.2 ± 0.07	1.4 ± 0.1	1.2 ± 0.3	-0.1 ± 0.1	GB6 J1806+6949	
18 08 32	56 58		0.6 ± 0.05	0.7 ± 0.06	0.8 ± 0.06	0.7 ± 0.09	...	0.3 ± 0.3	GB6 J1808+5709	[a]
18 19 57	−55 21		0.9 ± 0.07	0.5 ± 0.2	0.6 ± 0.1	...	...	-0.8 ± 0.8	PMN J1819-5521	
18 20 03	−63 43	200	1.7 ± 0.05	1.5 ± 0.08	1.2 ± 0.09	1.2 ± 0.2	1.2 ± 0.2	-0.3 ± 0.2	PMN J1819-6345	
18 24 09	56 50	053	1.5 ± 0.04	1.3 ± 0.07	1.3 ± 0.09	1.4 ± 0.2	0.8 ± 0.2	-0.3 ± 0.2	GB6 J1824+5650	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
18 25 37	67 37		···	···	0.3 ± 0.09	0.6 ± 0.1	0.6 ± 0.1	0.7 ± 0.8	···	
18 29 42	48 45	046	2.8 ± 0.04	2.8 ± 0.07	2.6 ± 0.08	2.0 ± 0.1	1.3 ± 0.2	-0.2 ± 0.1	GB6 J1829+4844	
18 32 41	68 44		···	···	0.4 ± 0.07	0.7 ± 0.06	0.7 ± 0.1	0.8 ± 0.8	GB6 J1832+6848	
18 34 21	−58 54		1.1 ± 0.04	1.1 ± 0.07	1.2 ± 0.08	0.9 ± 0.2	···	0.1 ± 0.3	PMN J1834-5856	
18 35 03	32 45		0.8 ± 0.05	0.8 ± 0.07	0.7 ± 0.07	0.5 ± 0.2	0.7 ± 0.2	-0.2 ± 0.3	GB6 J1835+3241	
18 37 23	−71 06	192	1.9 ± 0.04	1.7 ± 0.06	1.5 ± 0.06	1.2 ± 0.1	···	-0.4 ± 0.1	PMN J1837-7108	
18 40 49	79 46	073	1.3 ± 0.04	0.9 ± 0.08	0.7 ± 0.1	···	···	-1.0 ± 0.4	1Jy 1845+79	
18 42 52	68 08	066	1.1 ± 0.03	1.2 ± 0.05	1.2 ± 0.05	1.0 ± 0.08	0.6 ± 0.2	-0.0 ± 0.1	GB6 J1842+6809	a
18 48 40	32 23		0.7 ± 0.05	0.8 ± 0.1	0.5 ± 0.1	···	···	-0.3 ± 0.8	GB6 J1848+3219	
18 49 38	67 05	065	1.2 ± 0.04	1.4 ± 0.06	1.4 ± 0.05	1.2 ± 0.1	1.4 ± 0.2	0.1 ± 0.1	GB6 J1849+6705	a
18 50 45	28 23	028	1.5 ± 0.04	1.1 ± 0.07	0.9 ± 0.05	0.6 ± 0.1	···	-0.9 ± 0.2	GB6 J1850+2825	
19 02 53	31 53	034	1.3 ± 0.04	1.1 ± 0.06	0.8 ± 0.07	0.4 ± 0.2	···	-0.8 ± 0.3	GB6 J1902+3159	
19 15 56	−80 00		0.7 ± 0.04	0.4 ± 0.07	0.5 ± 0.07	···	···	-0.9 ± 0.5	PMN J1918-7957	
19 23 30	−21 05	008	2.3 ± 0.06	2.5 ± 0.1	2.5 ± 0.1	2.6 ± 0.2	2.0 ± 0.4	0.1 ± 0.1	PMN J1923-2104	
19 24 51	−29 14		12.3 ± 0.06	12.0 ± 0.1	11.4 ± 0.1	10.9 ± 0.2	7.6 ± 0.4	-0.1 ± 0.03	PMN J1924-2914	
19 27 36	61 19	059	1.0 ± 0.04	1.0 ± 0.07	1.0 ± 0.08	0.7 ± 0.1	0.6 ± 0.2	-0.2 ± 0.3	GB6 J1927+6117	
19 27 42	73 57	070	3.5 ± 0.04	3.2 ± 0.06	2.8 ± 0.07	2.7 ± 0.1	1.3 ± 0.3	-0.3 ± 0.07	GB6 J1927+7357	
19 37 07	−39 57		1.0 ± 0.07	1.3 ± 0.1	1.3 ± 0.1	1.4 ± 0.2	···	0.3 ± 0.3	PMN J1937-3957	
19 38 15	−63 44		0.9 ± 0.05	0.7 ± 0.07	0.6 ± 0.08	···	···	-0.6 ± 0.4	PMN J1939-6342	a
19 39 24	−15 25		1.0 ± 0.07	1.0 ± 0.09	1.0 ± 0.09	0.6 ± 0.2	···	-0.1 ± 0.4	PMN J1939-1525	
19 51 28	67 49		0.7 ± 0.04	0.9 ± 0.05	0.7 ± 0.05	0.7 ± 0.08	0.7 ± 0.2	0.1 ± 0.2	GB6 J1951+6743	
19 52 19	02 33		0.8 ± 0.07	0.6 ± 0.09	0.6 ± 0.08	0.9 ± 0.2	···	-0.3 ± 0.5	GB6 J1952+0230	
19 55 46	51 39	051	0.8 ± 0.05	0.9 ± 0.1	0.8 ± 0.09	···	···	0.1 ± 0.4	GB6 J1955+5131	
19 58 02	−38 45	003	3.4 ± 0.06	3.5 ± 0.09	3.1 ± 0.1	2.7 ± 0.2	1.9 ± 0.5	-0.1 ± 0.1	PMN J1957-3845	
20 00 58	−17 49	011	2.0 ± 0.07	1.9 ± 0.09	1.8 ± 0.1	1.8 ± 0.2	2.0 ± 0.8	-0.1 ± 0.2	PMN J2000-1748	
20 05 43	77 55		0.8 ± 0.05	0.7 ± 0.1	0.8 ± 0.1	0.8 ± 0.2	0.9 ± 0.2	0.0 ± 0.3	1Jy 2007+77	
20 08 21	66 12		0.7 ± 0.03	0.5 ± 0.05	0.5 ± 0.05	0.6 ± 0.2	···	-0.5 ± 0.3	GB6 J2007+6607	
20 10 03	72 31		0.7 ± 0.06	0.6 ± 0.08	1.0 ± 0.07	1.0 ± 0.2	0.7 ± 0.2	0.4 ± 0.3	GB6 J2009+7229	
20 11 19	−15 47	014	1.6 ± 0.05	1.5 ± 0.1	1.5 ± 0.2	1.2 ± 0.3	···	-0.2 ± 0.3	PMN J2011-1546	
20 22 30	61 36	063	1.6 ± 0.05	1.4 ± 0.07	1.2 ± 0.07	0.7 ± 0.1	···	-0.5 ± 0.2	GB6 J2022+6137	
20 23 38	54 26		0.7 ± 0.07	0.9 ± 0.07	0.8 ± 0.08	0.8 ± 0.1	···	0.1 ± 0.4	GB6 J2023+5427	
20 24 31	17 12	031	0.9 ± 0.04	1.0 ± 0.08	0.9 ± 0.09	0.8 ± 0.1	0.8 ± 0.3	-0.1 ± 0.3	GB6 J2024+1718	a
20 34 54	−68 45	194	0.7 ± 0.05	0.8 ± 0.08	0.8 ± 0.08	0.8 ± 0.09	···	0.2 ± 0.3	PMN J2035-6846	
20 35 20	10 55		0.6 ± 0.06	1.1 ± 0.1	0.7 ± 0.1	0.9 ± 0.2	1.0 ± 0.3	0.3 ± 0.3	GB6 J2035+1055	
20 56 11	−47 16	208	2.2 ± 0.05	2.5 ± 0.08	2.4 ± 0.1	2.2 ± 0.2	1.7 ± 0.4	0.1 ± 0.1	PMN J2056-4714	
21 01 37	03 44		1.2 ± 0.05	1.1 ± 0.08	1.0 ± 0.2	1.0 ± 0.2	0.9 ± 0.3	-0.2 ± 0.3	GB6 J2101+0341	
21 09 31	−41 13	001	1.5 ± 0.06	1.6 ± 0.1	1.2 ± 0.1	1.1 ± 0.2	1.0 ± 0.3	-0.3 ± 0.2	PMN J2109-4110	

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
21 09 39	35 37	049	0.9 ± 0.06	0.7 ± 0.08	0.6 ± 0.07	0.8 ± 0.2	···	-0.4 ± 0.4	GB6 J2109+3532	[a]
21 23 42	05 36	027	2.2 ± 0.06	1.8 ± 0.1	1.8 ± 0.1	1.3 ± 0.2	···	-0.4 ± 0.2	GB6 J2123+0535	
21 24 10	25 07		0.8 ± 0.06	0.6 ± 0.09	0.4 ± 0.08	0.5 ± 0.2	···	-0.9 ± 0.6	GB6 J2123+2504	
21 31 32	−12 07	017	2.7 ± 0.06	2.4 ± 0.1	2.4 ± 0.1	1.7 ± 0.2	1.6 ± 0.5	-0.3 ± 0.1	PMN J2131-1207	
21 34 08	−01 54	020	2.0 ± 0.06	1.9 ± 0.1	1.7 ± 0.1	1.6 ± 0.2	1.5 ± 0.4	-0.2 ± 0.2	PMN J2134-0153	
21 36 37	00 41	025	4.4 ± 0.06	3.5 ± 0.1	3.0 ± 0.1	1.4 ± 0.2	1.4 ± 0.3	-0.7 ± 0.1	GB6 J2136+0041	
21 39 18	14 25	041	2.2 ± 0.05	2.0 ± 0.08	1.9 ± 0.09	1.3 ± 0.2	1.0 ± 0.2	-0.3 ± 0.2	GB6 J2139+1423	
21 43 26	17 41	044	1.2 ± 0.05	1.3 ± 0.07	1.0 ± 0.09	0.8 ± 0.2	···	-0.1 ± 0.3	GB6 J2143+1743	
21 48 05	06 57	037	8.0 ± 0.06	7.7 ± 0.09	7.5 ± 0.1	6.5 ± 0.2	5.3 ± 0.5	-0.2 ± 0.05	GB6 J2148+0657	
21 48 46	−77 58	184	1.6 ± 0.04	1.4 ± 0.07	1.2 ± 0.07	0.7 ± 0.1	···	-0.5 ± 0.2	PMN J2146-7755	
21 51 47	−30 27		1.3 ± 0.06	1.4 ± 0.1	1.4 ± 0.1	1.6 ± 0.2	···	0.2 ± 0.2	PMN J2151-3028	
21 57 05	−69 42	190	3.6 ± 0.05	2.9 ± 0.08	2.6 ± 0.08	2.1 ± 0.2	1.5 ± 0.4	-0.6 ± 0.1	PMN J2157-6941	
21 58 07	−15 01	018	2.1 ± 0.07	1.8 ± 0.09	1.8 ± 0.1	1.4 ± 0.3	0.6 ± 0.3	-0.4 ± 0.2	PMN J2158-1501	
22 02 50	42 17	058	3.4 ± 0.05	3.5 ± 0.07	3.6 ± 0.07	3.3 ± 0.2	···	0.0 ± 0.08	GB6 J2202+4216	
22 03 19	31 46	054	2.7 ± 0.05	2.4 ± 0.08	2.1 ± 0.1	1.7 ± 0.2	1.6 ± 0.4	-0.4 ± 0.1	GB6 J2203+3145	
22 03 25	17 23	045	1.5 ± 0.06	1.6 ± 0.09	1.6 ± 0.1	1.5 ± 0.2	···	0.1 ± 0.2	GB6 J2203+1725	
22 06 13	−18 38	016	1.8 ± 0.06	1.6 ± 0.09	1.2 ± 0.1	1.1 ± 0.2	···	-0.5 ± 0.2	PMN J2206-1835	
22 07 12	−53 48		1.0 ± 0.05	0.8 ± 0.07	0.7 ± 0.1	0.4 ± 0.1	···	-0.6 ± 0.4	PMN J2207-5346	
22 11 37	23 52	050	1.3 ± 0.06	1.5 ± 0.09	1.4 ± 0.08	1.0 ± 0.1	1.1 ± 0.3	-0.1 ± 0.2	GB6 J2212+2355	
22 12 59	−25 24		0.9 ± 0.07	0.7 ± 0.1	0.6 ± 0.1	0.8 ± 0.1	···	-0.2 ± 0.4	PMN J2213-2529	[a]
22 18 52	−03 35	030	2.3 ± 0.06	2.0 ± 0.1	1.9 ± 0.1	1.6 ± 0.2	···	-0.4 ± 0.2	PMN J2218-0335	
22 25 38	21 19		0.8 ± 0.06	1.0 ± 0.09	0.9 ± 0.09	0.6 ± 0.2	0.6 ± 0.2	0.1 ± 0.4	GB6 J2225+2118	
22 25 46	−04 55	029	5.2 ± 0.06	4.9 ± 0.1	4.3 ± 0.1	4.1 ± 0.2	3.6 ± 0.7	-0.2 ± 0.08	PMN J2225-0457	
22 29 42	−08 33	024	1.9 ± 0.07	2.3 ± 0.1	2.2 ± 0.1	2.9 ± 0.2	2.1 ± 0.5	0.3 ± 0.2	PMN J2229-0832	
22 29 47	−20 50		0.9 ± 0.06	0.8 ± 0.09	0.9 ± 0.1	1.0 ± 0.2	1.0 ± 0.3	0.1 ± 0.3	PMN J2229-2049	
22 32 37	11 44	047	3.4 ± 0.06	4.0 ± 0.1	4.1 ± 0.1	4.5 ± 0.2	4.0 ± 0.3	0.2 ± 0.08	GB6 J2232+1143	
22 35 13	−48 34	206	2.0 ± 0.05	2.2 ± 0.08	2.1 ± 0.1	2.0 ± 0.2	1.6 ± 0.4	0.1 ± 0.1	PMN J2235-4835	
22 36 23	28 24	057	1.1 ± 0.07	1.2 ± 0.08	1.2 ± 0.1	1.2 ± 0.1	···	0.1 ± 0.3	GB6 J2236+2828	
22 39 33	−57 01	201	1.2 ± 0.04	1.4 ± 0.05	1.1 ± 0.07	0.9 ± 0.1	1.5 ± 0.7	-0.0 ± 0.2	PMN J2239-5701	
22 46 13	−12 08	021	1.8 ± 0.06	1.8 ± 0.1	1.7 ± 0.2	1.2 ± 0.3	···	-0.2 ± 0.3	PMN J2246-1206	
22 54 00	16 08	055	7.4 ± 0.06	7.5 ± 0.1	7.5 ± 0.1	7.6 ± 0.2	7.2 ± 0.4	0.0 ± 0.04	GB6 J2253+1608	
22 55 44	42 01		1.0 ± 0.04	0.7 ± 0.06	0.6 ± 0.08	···	···	-0.8 ± 0.4	GB6 J2255+4202	
22 56 29	−20 14	019	0.8 ± 0.05	0.7 ± 0.08	0.8 ± 0.09	0.5 ± 0.2	···	-0.3 ± 0.4	PMN J2256-2011	
22 58 06	−27 57	012	5.2 ± 0.06	5.2 ± 0.09	5.0 ± 0.1	4.4 ± 0.2	3.6 ± 0.4	-0.1 ± 0.07	PMN J2258-2758	
23 02 44	−68 08		0.6 ± 0.07	0.5 ± 0.08	0.5 ± 0.1	···	···	-0.6 ± 0.8	PMN J2303-6807	[a]
23 15 49	−50 18	204	1.1 ± 0.04	1.1 ± 0.06	0.9 ± 0.1	0.9 ± 0.1	···	-0.3 ± 0.3	PMN J2315-5018	
23 22 33	44 48		0.8 ± 0.03	0.9 ± 0.05	0.8 ± 0.07	0.6 ± 0.1	0.5 ± 0.3	-0.1 ± 0.3	GB6 J2322+4445	[a]

Table 1—Continued

RA [hms]	Dec [dm]	ID	K [Jy]	Ka [Jy]	Q [Jy]	V [Jy]	W [Jy]	α	5 GHz ID	
23 22 48	51 05		0.9 ± 0.05	0.8 ± 0.09	0.7 ± 0.08	0.5 ± 0.1	···	-0.4 ± 0.3	GB6 J2322+5057	[a]
23 27 38	09 37		0.8 ± 0.07	1.2 ± 0.1	1.1 ± 0.1	0.7 ± 0.2	···	0.3 ± 0.4	GB6 J2327+0940	[a]
23 29 04	−47 33		1.3 ± 0.04	1.0 ± 0.08	1.2 ± 0.1	0.8 ± 0.1	0.9 ± 0.2	-0.3 ± 0.2	PMN J2329-4730	
23 30 22	33 48		0.8 ± 0.06	0.8 ± 0.09	0.7 ± 0.09	0.8 ± 0.2	···	0.0 ± 0.4	GB6 J2330+3348	[a]
23 30 44	10 56		1.0 ± 0.05	1.0 ± 0.08	0.9 ± 0.08	1.0 ± 0.2	···	-0.1 ± 0.3	GB6 J2330+1100	
23 31 22	−15 58	032	1.1 ± 0.07	0.9 ± 0.1	0.8 ± 0.2	0.8 ± 0.2	0.8 ± 0.4	-0.4 ± 0.4	PMN J2331-1556	
23 33 45	−23 40		0.9 ± 0.06	0.9 ± 0.08	1.0 ± 0.09	1.1 ± 0.3	0.7 ± 0.3	0.1 ± 0.3	PMN J2333-2343	[a]
23 34 10	07 34		1.1 ± 0.07	1.0 ± 0.08	1.0 ± 0.09	1.3 ± 0.2	···	-0.0 ± 0.3	GB6 J2334+0736	
23 34 58	−01 29		0.6 ± 0.06	1.1 ± 0.1	1.0 ± 0.1	0.7 ± 0.2	···	0.7 ± 0.5	PMN J2335-0131	
23 35 27	−52 43	195	1.2 ± 0.04	0.8 ± 0.05	0.7 ± 0.09	0.6 ± 0.1	···	-1.0 ± 0.3	PMN J2336-5236	[a]
23 46 46	09 29		1.2 ± 0.06	1.1 ± 0.07	0.8 ± 0.1	0.6 ± 0.2	···	-0.4 ± 0.4	GB6 J2346+0930	[a]
23 48 14	−49 31		0.7 ± 0.06	0.7 ± 0.07	0.7 ± 0.07	···	···	0.1 ± 0.5	···	
23 48 16	−16 30	039	1.8 ± 0.06	1.8 ± 0.1	1.9 ± 0.1	1.5 ± 0.2	1.0 ± 0.3	-0.1 ± 0.2	PMN J2348-1631	
23 49 32	38 46		0.8 ± 0.06	0.7 ± 0.1	···	···	···	-0.3 ± 1	GB6 J2349+3849	[a]
23 54 22	45 50	074	1.6 ± 0.05	1.2 ± 0.07	1.2 ± 0.1	1.1 ± 0.2	0.9 ± 0.2	-0.4 ± 0.2	GB6 J2354+4553	
23 54 59	81 52		0.8 ± 0.04	0.8 ± 0.1	0.7 ± 0.09	1.3 ± 0.2	···	0.1 ± 0.3	···	
23 56 11	49 53	075	0.9 ± 0.03	0.8 ± 0.05	0.6 ± 0.07	0.4 ± 0.1	···	-0.4 ± 0.3	GB6 J2355+4950	
23 57 51	−53 14	189	1.3 ± 0.04	1.1 ± 0.08	1.1 ± 0.1	1.1 ± 0.1	0.8 ± 0.3	-0.2 ± 0.2	PMN J2357-5311	
23 58 04	−10 14		1.1 ± 0.06	1.3 ± 0.07	1.2 ± 0.08	1.2 ± 0.2	0.9 ± 0.4	0.1 ± 0.3	PMN J2358-1020	
23 58 53	−60 50	187	1.9 ± 0.05	1.4 ± 0.07	1.2 ± 0.06	1.1 ± 0.1	···	-0.7 ± 0.2	PMN J2358-6054	

[a]Indicates the source has multiple possible identifications.

[b]Source J0322-3711 (Fornax A) is extended, and the fluxes listed were obtained by aperture photometry.

[c]Source J0519-0539 is a blend of the Lynds Bright Nebulae LBN 207.65-23.11 and LBN 207.29-22.66.

[d]Source J1356+7647 is outside of the declination range of the GB6 and PMN catalogs. Identified as QSO NVSSJ135755+764320 by Trushkin (2006, private communication).

[e]Source J1633+8226 is outside of the declination range of the GB6 and PMN catalogs. It was identified as NGC 6251 by Trushkin (2003).

[f]Source J1657+4754 is identified as QSO GB6J1658+4737 by Trushkin (2006, private communication). Offset from the *WMAP* position is 18.1 arcminutes.

Table 2. WMAP Point Source Catalog –Five Years VW Bands

RA hms	DEC dms	WMAP ID	Type	Dist. [arcmin]	f_V[a] [Jy]	T_{V-W} [mK]	5GHz ID	Identified /Masked[b]	Note[c]
00 06 19	-06 27 31	WMAP J0006-0623	G	4.1	1.7±0.3	0.35	PMN J0006-0623	Y / Y	‡
00 18 49	73 24 34	···	QSO	5.0	0.9±0.3	0.23	GB6 J0019+7327	Y / Y	‡
01 08 43	01 39 53	WMAP J0108+0135	QSO	5.0	1.8±0.3	0.36	PMN J0108+0134	Y / Y	‡
01 36 55	47 50 27	WMAP J0137+4753	QSO	1.2	3.1±0.3	0.56	GB6 J0136+4751	Y / Y	‡
02 10 57	-51 01 28	WMAP J0210-5100	QSO	1.8	2.7±0.3	0.42	PMN J0210-5101	Y / Y	‡, ⋄
02 37 50	28 47 49	WMAP 0237+2848	QSO	0.6	2.8±0.3	0.51	GB6 J0237+2848	Y / Y	‡
03 19 48	41 30 13	WMAP J0319+4131	G	0.5	5.6±0.3	1.01	GB6 J0319+4130	Y / Y	‡, Per A
03 21 52	-37 08 24	WMAP J0322-3711	G	10.6	2.1±0.3	0.48	1Jy 0320-37	Y / Y	‡, For A
03 34 19	-40 12 10	WMAP J0334-4007	QSO	3.9	1.6±0.3	0.24	PMN J0334-4008	Y / Y	‡, ⋄
03 58 57	36 40 06	···	···	···	5.0	0.79	···	N / Y	In NGC 1499
04 02 37	36 17 10	···	···	···	6.2	0.99	···	N / Y	In NGC 1499
04 03 54	-36 04 48	WMAP J0403-3604	QSO	0.2	3.7±0.3	0.47	PMN J0403-3605	Y / Y	‡, ⋄
04 23 17	-01 20 00	WMAP J0423-0120	QSO	0.6	7.1±0.4	1.03	PMN J0423-0120	Y / Y	‡
04 25 02	-37 56 42	WMAP J0424-3757	QSO	3.9	1.5±0.3	0.26	PMN J0424-3756	Y / Y	‡, ⋄
04 33 21	05 22 36	WMAP J0433+0521	G	2.8	2.2±0.3	0.39	GB6 J0433+0521	Y / Y	‡
04 40 28	-43 34 55	WMAP J0440-4332	QSO	2.6	1.9±0.3	0.33	PMN J0440-4332	Y / Y	‡, ⋄
04 49 14	11 22 22	···	G	1.8	1.9±0.3	0.34	GB6 J0449+1121	Y / Y	*, †, ‡
04 52 54	-69 18 56	···	HII	5.9	1.6±0.3	0.20	PMN J0452-6922	Y / N	†, ‡, in LMC
04 55 43	-46 17 00	WMAP 0455-4617	QSO	1.7	3.4±0.3	0.60	PMN J0455-4616	Y / Y	‡, ⋄
04 57 03	-66 25 20	···	HII	1.5	3.2±0.3	0.38	PMN J0456-6624	Y / Y	†, in LMC
04 57 08	-23 24 28	WMAP J0456-2322	QSO	1.2	1.7±0.3	0.27	PMN J0457-2324	Y / Y	‡, ⋄
05 17 52	-69 19 02	···	HII	6.8	1.0±0.3	0.19	PMN J0518-6914	Y / N	†, ‡, in LMC
05 19 47	-45 48 21	WMAP J0519-4546	G	1.7	3.5±0.3	0.63	1Jy 0518-45	Y / Y	‡, ⋄, Pic A
05 22 19	-68 00 24	···	HII	3.5	1.7±0.3	0.18	PMN J0522-6757	Y / N	†, ‡, in LMC
05 23 09	-36 26 48	WMAP J0523-3627	G	2.3	3.4±0.3	0.44	PMN J0522-3628	Y / Y	⋄
05 34 57	-67 33 47	···	HII	3.0	1.8±0.3	0.21	PMN J0535-6734	Y / N	†, ‡, in LMC
05 35 17	-05 23 26	···	HII	0.1	290.9±6.7	35.81	···	Y / Y	Ori A
05 38 28	-69 07 20	···	HII	3.1	26.3±0.8	3.83	PMN J0538-6905	Y / Y	†, ‡, in LMC
05 38 42	-44 05 49	WMAP J0538-4405	QSO	1.6	5.6±0.3	0.74	PMN J0538-4405	Y / Y	‡, ⋄
05 38 53	-03 01 16	···	···	···	1.9	0.31	···	N / N	in Ori
05 40 10	-03 08 51	···	···	···	2.0	0.32	···	N / N	in Ori
05 40 30	-02 39 03	···	···	···	2.6	0.41	···	N / N	in Ori
05 41 43	-01 53 49	···	HII	0.2	45.8±1.2	5.78	PMN J0541-0154	Y / Y	‡, Ori B
06 07 58	-06 26 25	···	HII	4.5	7.0±0.4	0.37	PMN J0607-0623	Y / Y	†, *, ‡
06 09 38	-15 41 35	WMAP J0609-1541	QSO	1.3	2.2±0.3	0.37	PMN J0609-1542	Y / Y	‡, ⋄
06 35 36	-75 15 15	WMAP J0635-7517	QSO	1.2	2.5±0.3	0.42	PMN J0635-7516	Y / Y	‡, ⋄
07 21 54	-37 30 36	···	···	···	1.6	0.25	···	N / N	in Gum
07 22 40	71 20 53	WMAP J0721+7122	QSO	3.7	1.9±0.3	0.25	GB6 J0721+7120	Y / Y	‡
07 31 22	-48 09 24	···	···	···	1.7	0.26	···	N / N	in Gum
07 34 58	-48 49 11	···	···	···	2.1	0.33	···	N / N	in Gum
07 36 27	-49 50 52	···	···	···	1.5	0.24	···	N / N	in Gum
07 44 33	-50 33 49	···	···	···	1.6	0.25	···	N / N	in Gum
07 49 03	-50 39 05	···	···	···	1.6	0.26	···	N / N	in Gum
08 02 32	-50 41 25	···	···	···	1.6	0.26	···	N / N	in Gum
08 14 06	-52 52 02	···	···	···	1.6	0.25	···	N / N	in Gum

Table 2—Continued

RA hms	DEC dms	WMAP ID	Type	Dist. [arcmin]	f_V[a] [Jy]	T_{V-W} [mK]	5GHz ID	Identified /Masked[b]	Note[c]
08 36 38	-20 15 52	WMAP J0836-2015	QSO	1.2	1.9±0.3	0.39	PMN J0836-2017	Y / Y	‡, ⋄
08 41 21	70 55 29	WMAP J0841+7053	QSO	1.8	1.7±0.3	0.31	GB6 J0841+7053	Y / Y	‡
08 54 58	20 06 06	WMAP J0854+2006	QSO	2.2	4.2±0.3	0.61	GB6 J0854+2006	Y / Y	‡
09 09 12	01 23 37	WMAP J0909+0119	QSO	2.1	1.6±0.3	0.44	GB6 J0909+0121	Y / Y	‡
09 21 28	07 24 22	···	···	···	2.3	0.36	···	N / N	···
09 27 05	39 03 46	WMAP J0927+3901	QSO	1.5	4.6±0.3	0.72	GB6 J0927+3902	Y / Y	‡
10 58 31	01 33 44	WMAP J1058+0134	QSO	0.4	4.2±0.3	0.80	GB6 J1058+0133	Y / Y	‡
10 59 09	-80 04 12	WMAP J1059-8003	QSO	1.1	2.3±0.3	0.30	PMN J1058-8003	Y / Y	‡, ⋄
11 53 04	49 29 55	WMAP J1153+4932	G	3.5	2.1±0.3	0.30	GB6 J1153+4931	Y / Y	···
11 59 41	29 19 49	WMAP J1159+2915	QSO	5.5	1.8±0.3	0.33	GB6 J1159+2914	Y / Y	‡
12 29 08	02 03 06	WMAP J1229+0203	QSO	0.3	14.6±0.5	2.32	PMN J1229+0203	Y / Y	‡
12 30 49	12 22 56	WMAP J1230+1223	G	0.5	9.6±0.4	1.49	GB6 J1230+1223	Y / Y	Vir A
12 47 02	-25 46 32	WMAP J1246-2547	QSO	3.7	1.7±0.3	0.33	PMN J1246-2547	Y / Y	‡, ⋄
12 56 12	-05 47 28	WMAP J1256-0547	QSO	0.2	16.9±0.6	2.45	PMN J1256-0547	Y / Y	‡
13 10 47	32 24 25	WMAP J1310+3222	QSO	5.3	1.7±0.3	0.28	GB6 J1310+3220	Y / Y	‡
13 15 59	-33 45 18	WMAP J1316-3337	QSO	6.6	1.9±0.3	0.33	PMN J1316-3339	Y / Y	‡, ⋄
13 22 35	-44 38 25	···	···	···	2.2	0.34	···	N / Y	In Cen A vicinity
13 25 33	-42 59 25	···	G	2.0	25.6±0.8	4.02	PMN J1325-4257[d]	Y / Y	†, ∗, ⋄, Cen A
13 37 41	-12 56 37	WMAP J1337-1257	QSO	0.8	6.0±0.3	0.86	PMN J1337-1257	Y / Y	‡
14 27 53	-42 06 36	WMAP J1427-4206	QSO	0.7	2.7±0.3	0.39	PMN J1427-4206	Y / Y	‡, ⋄
15 18 04	-24 21 26	WMAP J1517-2421	G	5.1	1.8±0.3	0.34	PMN J1517-2422	Y / Y	‡, ⋄
15 49 33	02 33 46	WMAP J1549+0236	QSO	3.4	2.1±0.3	0.36	GB6 J1549+0237	Y / Y	‡
16 13 42	34 12 03	WMAP J1613+3412	QSO	0.8	2.9±0.3	0.51	GB6 J1613+3412	Y / Y	‡
16 18 32	-77 12 31	WMAP J1618-7716	QSO	5.3	1.7±0.3	0.25	PMN J1617-7717	Y / Y	‡, ⋄
16 20 18	-25 34 47	···	···	···	2.7	0.43	···	N / N	in Oph
16 20 51	-25 21 11	···	···	···	3.0	0.47	···	N / N	in Oph
16 28 38	-09 03 59	···	···	···	2.1	0.34	···	N / N	in Oph
16 35 05	38 08 11	WMAP J1635+3807	QSO	2.1	4.1±0.3	0.56	GB6 J1635+3808	Y / Y	‡
16 38 26	57 18 39	WMAP J1638+5722	QSO	2.4	1.6±0.3	0.26	GB6 J1638+5720	Y / Y	‡
16 42 26	68 55 54	WMAP J1642+6854	QSO	1.8	1.3±0.3	0.31	GB6 J1642+6856	Y / Y	‡
16 42 56	39 48 44	WMAP J1642+3948	QSO	0.6	5.1±0.3	0.78	GB6 J1642+3948	Y / Y	‡
17 20 32	-00 59 59	···	G	1.5	2.6±0.3	0.43	PMN J1720-0058	Y / Y	†, ∗
17 33 01	-13 06 25	···	QSO	1.6	3.3±0.3	0.51	PMN J1733-1304	Y / Y	∗, ‡
17 43 56	-03 48 42	···	QSO	1.6	4.5±0.3	0.76	PMN J1743-0350	Y / Y	∗, ‡
17 51 38	09 40 23	···	QSO	1.9	3.6±0.3	0.57	GB6 J1751+0938	Y / Y	†, ∗, ‡
17 53 44	28 47 37	WMAP J1753+2848	QSO	0.6	2.0±0.3	0.27	GB6 J1753+2847	Y / Y	‡
18 06 49	69 50 36	WMAP J1806+6949	G	1.1	1.3±0.3	0.23	GB6 J1806+6949	Y / Y	‡
18 29 37	48 46 45	WMAP J1829+4845	QSO	2.2	2.3±0.3	0.28	GB6 J1829+4844	Y / Y	···
19 24 52	-29 14 15	···	QSO	0.3	10.1±0.4	1.60	PMN J1924-2914	Y / Y	†, ∗, ‡, ⋄
19 27 42	73 56 34	WMAP J1927+7357	QSO	1.5	3.0±0.3	0.45	GB6 J1927+7357	Y / Y	‡
19 57 55	-38 45 03	WMAP J1958-3845	QSO	0.9	2.9±0.3	0.35	PMN J1957-3845	Y / Y	‡, ⋄
20 11 12	-15 47 51	WMAP J2011-1547	QSO	1.5	1.1±0.3	0.32	PMN J2011-1546	Y / Y	‡, ⋄
20 56 01	-47 15 56	WMAP J2056-4716	QSO	2.8	2.6±0.3	0.39	PMN J2056-4714	Y / Y	‡, ⋄
21 34 15	-01 59 35	WMAP J2134-0154	QSO	6.4	1.3±0.3	0.38	PMN J2134-0153	Y / Y	‡
21 48 07	06 56 29	WMAP J2148+0657	QSO	1.2	6.5±0.3	1.02	GB6 J2148+0657	Y / Y	‡

Table 2—Continued

RA hms	DEC dms	WMAP ID	Type	Dist. [arcmin]	f_V[a] [Jy]	T_{V-W} [mK]	5GHz ID	Identified /Masked[b]	Note[c]
21 57 19	-69 41 42	WMAP J2157-6942	G	1.2	2.1±0.3	0.41	PMN J2157-6941	Y / Y	◇
22 02 47	42 17 37	WMAP J2202+4217	QSO	1.2	3.6±0.3	0.39	GB6 J2202+4216	Y / Y	∗
22 18 55	-03 30 48	WMAP J2218-0335	QSO	4.9	1.5±0.3	0.35	PMN J2218-0335	Y / Y	‡
22 25 42	-04 57 56	WMAP J2225-0455	QSO	1.6	3.6±0.3	0.68	PMN J2225-0457	Y / Y	‡
22 29 46	-08 31 23	WMAP J2229-0833	QSO	2.1	2.8±0.3	0.41	PMN J2229-0832	Y / Y	‡
22 32 35	11 42 50	WMAP J2232+1144	QSO	1.1	4.2±0.3	0.53	GB6 J2232+1143	Y / Y	···
22 35 21	-48 35 13	WMAP J2235-4834	QSO	1.5	2.1±0.3	0.36	PMN J2235-4835	Y / Y	‡, ◇
22 53 57	16 10 11	WMAP J2254+1608	QSO	1.3	8.0±0.4	1.06	GB6 J2253+1608	Y / Y	‡
22 58 10	-27 59 31	WMAP J2258-2757	QSO	1.5	4.7±0.3	0.75	PMN J2258-2758	Y / Y	‡, ◇

[a]The V-band fluxes of the identified sources are calculated as in Chen & Wright (2007); The fluxes of the unidentified sources are estimated by multiplying the V-W temperature in the filtered map with the median conversion factor from V-W temperatures to V-band fluxes of the identified sources and are given without an uncertainty.

[b]Three-year WMAP point source mask is considered here.

[c]† and ∗ indicate the new sources cross-detected in Nie & Zhang (2007) and López-Caniego et al. (2007). ‡ and ◇ indicate the source is included in the CRATES catalog (Healey et al. 2007) and the AT20G BSS catalog (Massardi et al. 2007), respectively.

[d]Indicates the source has multiple possible 5 GHz identifications. The brightest one is given here.

Table 3. Significant Polarization Percentages

WMAP ID	K	Ka	Q
J0322−3711	8.5 ± 0.4	9.3 ± 1.2	8.1 ± 2.2
J0519−4546	5.7 ± 0.9	8.6 ± 2.0	···
J1229+0203	4.9 ± 0.3	4.4 ± 0.6	4.8 ± 0.8
J1230+1223	3.8 ± 04	4.8 ± 0.7	4.4 ± 1.0
J1256−0547	3.6 ± 0.4	3.1 ± 0.7	3.8 ± 0.8